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ABSTRACT

The extent to which adolescents are exposed to various types of violence, as victims or witnesses, and the association of such exposure with trauma symptoms and violent behavior were studied in samples of students from central city, suburban, and small city high schools. An anonymous self-report questionnaire was completed by 3,735 students in 6 public high schools in 2 states. Thirty-five percent were African American, 33 percent Caucasian, 23 percent Hispanic, and 9 percent of other ethnic background. About half were female, and about half lived with both parents. Males were the more frequent victims across domains, but females were more often victimized at home and were more frequent victims of sexual abuse than their male counterparts. About three in four students had seen violence at school in the past year. About half of Cleveland (Ohio) central city students and about half the male respondents in central city Denver (Colorado) reported witnessing a shooting. Significant relationships were found between violence and trauma symptoms and the students' own violent behavior. Although there was less severe violence exposure in the suburbs, the association with trauma symptoms and violent behavior were similar in significance and magnitude. Coping strategies of gender and racial groups are discussed. The association between violence exposure and violent behaviors is likely to be interactive rather than unidirectional. Eighteen tables present study findings. (Contains 82 references.) (SLD)

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The Mental Health Consequences of Adolescents' Exposure to Violence

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Applied Social Sciences

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The Mental Health Consequences of Adolescents' Exposure to Violence

November 1994
Final Report

Principal Investigator:
Mark I. Singer, Ph.D.
Associate Professor and Chair, Doctoral Program
Center for Practice Innovations
Mandel School of Applied Social Sciences
and The Center for Adolescent Health
School of Medicine
Case Western Reserve University
10900 Euclid Avenue
Cleveland, Ohio 44106-7164

Co-Investigators:

Trina M. Anglin, M.D., Ph.D.
Associate Professor of Pediatrics
University of Colorado School of Medicine and
Associate Chief, Section on Adolescent Medicine
The Children's Hospital, Denver

Li-yu Song, Ph.D.
Research Program Manager
Center for Practice Innovations
Mandel School of Applied Social Sciences

Research Assistant:

Lisa Lunghofer, Ph.D.
Mandel School of Applied Social Sciences

Center for Practice Innovations

Mandel School of Applied Social Sciences

Case Western Reserve University

Ohio Department of
Mental Health

30 East Broad Street
Columbus, Ohio 43266-0414

A day may come when future members of our society look back at this study and shake their heads, wondering how we could have ignored such a direct and explicit message: our children are exposed to increasing levels and intensities of violent acts, and that exposure to violence is creating both psychological distress and a tendency to reproduce those violent acts upon others.

The implications of Dr. Singer's work are enormous, but only if we pay attention. We must work together first to create a safer environment in which our children can grow to adulthood. We must work to reduce their exposure to all forms of violence, enabling them to establish respect for themselves and for others, while teaching them constructive methods of resolving conflict. We must provide help and support to those children who, regardless of our efforts to change their environment, are exposed to violence, so that they may heal and see that violence as an aberration in their lives, not the norm. And we must respond to the signals of psychological distress shown by any child, regardless of what we think may or may not have happened in their lives.

Dr. Singer, a committed, talented researcher, has, with this work, strongly affirmed the accuracy of the basic principles driving Governor George V. Voinovich's Ohio Family & Children First Initiative. Those principles emphasize the need for communities to come together on behalf of children and their families, establishing safety while offering nurturance, support, and early identification of needs which will require outside help.

This study provides a clarion call to action, and we cannot afford to wait any longer. We must bring together all of our resources, public and private, in a united effort to provide for our children the safe, nurturing environment we know to be critical to their healthy development. We must not allow future generations to judge us by our inability to hear and respond to this call.

Sincerely,

Michael F. Hogan, Ph.D.
Director

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"In today's world, you don't know how long you will survive. It stays on your mind when you go out. You don't know who will hurt you."

"Well, I think this world ain't nothing but a big ball of anger waiting to explode and there is no stopping it. No stopping it. No stopping it."

"I'm always getting shot at and it sucks!"

"I have to deal with gangs every time I leave my house. Police stop me all the time. And everyone thinks I want to hurt them."

"It's no fair to feel unsafe. I'm scared to come to school, I'm scared to do things. My boyfriend and I are scared to go outside. . . .It's no fair."

"I hold in so much rage that if it ever came down to it, I could kill someone with no remorse."

Quotes from adolescents exposed to violence.

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EXECUTIVE SUMMARY

Violence is an undeniable part of the lives of central city adolescents and is quickly becoming a part of all adolescents' daily experiences. Recent studies have attempted to document the prevalence of violence in adolescents' homes, schools, and neighborhoods. Results indicate that alarming numbers of young people have been victimized, have known victims of violence, and have engaged in violent acts. Although these statistics have been documented by researchers and publicized by the media, few attempts have been made to explore the effects of exposure to violence on the emotional well-being of adolescents.

This study has examined the extent to which adolescents are exposed to various types of violence, either as victims or as witnesses, and the association of such exposure with trauma symptoms and violent behavior. These relationships were examined in a sample of students from central city, suburban, and small city high schools. The research has investigated: (1) the effect of exposure to violence on students' reports of depression, anger, anxiety, dissociation, and post-traumatic stress, (2) the relationship between exposure to violence and aggressive or predatory behaviors, and (3) the types of coping strategies used by adolescents exposed to violence.

The study employed a survey design using an anonymous self-report questionnaire administered to students (grades 9–12) in six public high schools during the 1992–93 school year. A final sample of 3,735 students was obtained, representing 68% of the students attending the participating schools during the survey. The mean age was 16 years (SD = 1.2; range 14–19). Female students composed 52% of the final sample. Thirty-five

percent of the sample were African American, 33% were Caucasian, 23% were Hispanic, and 9% were from other ethnic groups. Fifty-three percent of students were living with both mother and father.

Although males were generally the most frequent victims across domains (i.e., home, school, and neighborhood) and types of violence, females were more frequently victimized at home and were more frequent victims of sexual abuse than were their male counterparts. Victimization in the neighborhood was particularly common among boys from the two central city sites and the small city site. Witnessing violence at school was common among both males and females from all four sites. Approximately three in four adolescents reported witnessing someone else being threatened and/or slapped, hit, or punched at school during the past year. Witnessing shootings was alarmingly common among central city adolescents. Approximately one-half of Cleveland central city males and females and Denver central city males reported witnessing at least one shooting during the past year.

The percentages of students who reported hitting someone before being hit and hitting someone after being hit were high across all sample sites. With the exception of suburban females, more than half of students from each site reported engaging in these behaviors within the past year. Central and small city males' reports of shooting others suggest that these young men are not only victims of gunfire but also perpetrators of gun violence. More than one in five males from the central and small city sites reported shooting at someone at least once during the past year.

Significant relationships were found between exposure to violence and trauma symptoms for students in the overall sample as well as for students from each sampling

site. Multiple regression analyses of the total sample revealed that violence exposure variables (and to a lesser extent, demographic variables) explained a significant portion of variance in all trauma symptom scores, including depression (R^2=.31), anger (R^2=.30), anxiety (R^2=.30), dissociation (R^2=.24), post-traumatic stress (R^2=.32), and total trauma score (R^2=.38). Although there was less severe violence exposure among suburban adolescents, the association between violence exposure and trauma symptoms was similar significance and magnitude to that of adolescents from other sites. Living in a suburban environment did not protect these youth from violence-associated trauma symptoms. Conversely, adolescents in the central city samples did not habituate to their high levels of violence exposure, as they also displayed substantial trauma symptoms related to violence exposure.

For the total sample as well as for students from each of the four sites, significant relationships were also found between violence exposure and students' own violent and predatory behaviors. Hierarchical regression analysis using the total sample revealed that demographic variables explained 9% of variance in students' predatory behaviors while violence exposure explained an additional 39%. After controlling for demographic variables, the additional variance explained by violence exposure was significant across all four sites. The percentage of additional variance explained ranged from 41% to 47%. Thus, adolescents who reported high levels of violence exposure were also likely to report high levels of committing violent and predatory behaviors.

Comparison of the coping strategies used by the most violent adolescents and all other adolescents revealed some striking differences. For example, the most violent males

and females, unlike adolescents in the comparison groups, reported using both getting angry and saying something mean as primary coping strategies. The most violent adolescents were also much more likely than comparison group students to report frequently using drugs or alcohol to deal with feeling upset or uptight. Use of listening to music as a primary coping strategy among all groups has important implications insofar as violence in the lives of adolescents may be compounded by exposure to violence themes in the entertainment media.

Students' comments on the difficulties faced by teenagers today reflected their daily experiences with violence. Several themes emerged from these comments: the inescapability of violence, hopelessness about the future, fear of dying, and concern with shootings, gangs, drugs, sexual abuse, and racism. One male teen suggested that involvement with violence was inevitable: "People have to face these things every day. If you are a bad kid or a good kid, if you look for trouble or don't look for trouble you somehow get involved because it looks for you." Another young man commented, "We have to deal with violence every day wondering if this is the day I will die."

Data from this study indicate the extent and implications of violence exposure among students from diverse socioeconomic and geographic backgrounds. Although central city adolescents had the greatest levels of exposure to severe violence, the relationship between violence exposure and both trauma symptoms and violent behavior was consistently strong across all four sites.

Based on the findings of this study, a number of prevention, intervention, and research strategies are recommended:

- School personnel, social service providers, and health care professionals should be trained to screen adolescents for violence exposure.
- A system for screening and treating violence-exposed youth must be developed and implemented in schools, community agencies, and health care sites.
- Special attention should be paid to females whose violence-related problems may be inadvertently overlooked by service providers or incorrectly viewed as less serious than problems manifested by males.
- Adolescents should be taught positive methods of expressing anger and coping with stress.
- Increased attention should be given to informing parents and youth-serving professionals of the important role that alcohol/drug use plays in the commission of violent acts.
- Substance abuse prevention and treatment programs should stress the hazards of mixing drugs or alcohol with firearms.
- Legislation must be enacted to limit the availability of handguns, with particular attention given to access among youth.
- There is a clear need for further understanding and studies of the development of violent behaviors and violence-related psychological trauma, particularly longitudinal and cross-sectional investigations of younger children.

INTRODUCTION

Violence is an undeniable part of the lives of central city adolescents and is quickly becoming a part of all adolescents' daily experiences. Recent studies have attempted to document the prevalence of violence in adolescents' homes, schools, and neighborhoods. Results indicate that alarming numbers of young people have been victimized, have known victims of violence, and have engaged in violent acts. Although these statistics have been documented by researchers and publicized by the media, few attempts have been made to explore the effect of exposure to violence on the emotional well-being of adolescents.

This study has examined the effects of exposure to violence on trauma symptoms and behavior of students from central city, suburban, and small city high schools. The research has investigated: (1) the effect of exposure to violence on students' reports of depression, anger, anxiety, dissociation, and post-traumatic stress, (2) the relationship between exposure to violence and aggressive or predatory behaviors, and (3) the types of coping strategies used by adolescents exposed to violence.

THE LITERATURE

The Incidence of Violence in the Lives of Adolescents

Homicide poses a significant threat to all adolescents, particularly those living in inner cities. Among 15- to 19-year-olds, the murder rate increased by 103% between 1985 and 1990, whereas the murder rate for the entire population rose by only 19% (Louis

Stokes, Violence Symposium, 1991). Firearm homicide is the second leading cause of death for all 15- to 19-year-olds (Fingerhut, 1992). African American males and females are at particular risk: homicide is the leading cause of death among black youth between 15 and 24 years old (Children's Defense Fund, 1988).

Although most adolescents will not be the victims of homicide, they are not immune to other types of violence. The National Adolescent Health Survey asked a nationally representative sample of 11,449 eighth and tenth graders about their exposure to violence. Survey results showed that these adolescents had both engaged in and been the victims of violence: 39% of students had been in at least one physical fight within the past year. Students reported significant exposure to violence in their neighborhoods: 33% had been threatened with bodily harm; 15% had been robbed; and 16% had been attacked (American School Health Association, 1989).

Studies limited to inner-city populations paint an even more dismal picture of adolescent exposure to violence. A 1988 Urban Institute study, which involved interviews with 387 randomly selected ninth and tenth grade males from inner-city Washington, D.C., schools (Brounstein, Hatry, Altschuler, & Blair, 1989), found high rates of victimization: 27% had been attacked, threatened, or robbed by a person with a weapon; 12% had been badly beaten by a non-household member. These young men also engaged in violence: 22% had been part of a group that attacked or threatened someone; 9% had robbed; and 4% had shot, stabbed, or killed someone.

The growth of youth gangs, which has been associated with low socioeconomic status, life in inner cities, and the proliferation of drug use and sales (National Committee

for Injury Prevention and Control, 1989), has increased the risk that young people will be the victims and/or the perpetrators of violence. A study of gang membership in 45 cities found 1,439 gangs with 120,636 members (Spergel et al., 1990). Of these gang members, 54.6% are African American and 32.6% are Hispanic. Spergel et al. (1990) also found that gang members were involved in violent crimes three times more often than juvenile delinquents who were not gang members. Those crimes have become more deadly as shotguns and automatic weapons are increasingly the weapons of choice among warring gangs (National School Safety Center, 1988).

Studies of the Effects of Violence in the Lives of Adolescents and Children

Research on exposure to chronic violence has been influenced by studies of both acute trauma and the effects of war. Recent studies have examined post-traumatic stress disorder (PTSD) symptomatology in children exposed to a variety of violent and traumatic experiences: being abducted on a school bus and buried underground (Terr, 1979, 1985); witnessing the murder of a parent (Malmquist, 1986); being caught on a school playground during a sniper attack (Pynoos et al., 1987); and seeing the murder, rape, or suicide of a parent (Pynoos and Eth, 1985). Adolescents' trauma reactions have been marked by belligerence (Green et al., 1991), acting out behaviors (Eth and Pynoos, 1985), and symptoms of depression and anxiety (Green et al., 1991).

Studies focusing on the effects of chronic violence have also been influenced by research in war-torn areas of the world: the Middle East (Garbarino, 1989; Baker, 1990;

Ziv et al., 1974); Africa (Garbarino et al., 1992; Straker and Moosa, 1988; Dawes et al., 1988); and Southeast Asia (Garbarino et al., 1992; Sack et al., 1986). These studies suggest that children exposed to repeated trauma do not become desensitized to the horrors of war, but rather that chronic assaults have an additive negative effect on the emotional well-being of young people (Macksoud, Dyegrov, and Raudain, 1992). It must be noted, however, that findings are limited by the clinical-descriptive nature of many studies of both war and trauma.

Only recently have attempts been made to explore the threat that chronic violence poses to the emotional well-being of adolescents in the United States. Researchers, relying not only on study findings but also on clinical experience and anecdotal evidence, have suggested that chronic exposure to violence may precipitate decreased cognitive performance and school achievement (Dyson, 1990); aggression (Rivera and Widom, 1990); anxiety (Pynoos and Eth, 1985); depression (Freeman, Mokros, and Poznanski, 1993; Richters and Martinez, 1993); low self-esteem (Sturkie and Flanzer, 1987); post-traumatic stress symptoms (Fitzpatrick and Boldizar, 1993); self-destructive behaviors such as substance abuse (Rivara et al., 1992), and difficulties concentrating (Shakoor and Chalmers, 1991).

Although increasing attention has been paid to chronic violence, few researchers have attempted simultaneously to assess adolescents' exposure to violence at home, at school, and in the neighborhood. This study is unique in its examination of both the cumulative and the differential impact of exposure to violence in these three domains. It is also unique in its exploration of both emotional and behavioral (i.e., aggressive and

predatory behaviors) correlates of witnessing and being a victim of violence. Four areas of research are important to the multiple purposes of this study: community violence studies; domestic violence research; studies examining the correlation between abuse and delinquency; and research on violence in schools. Although relevant, these studies have not been limited to inner city populations or to adolescents.

Community Violence

During the late 1980s, increasing attention was focused on the extent of children's exposure to community violence. Pynoos and Nader (1988) used clinical-descriptive methods as well as self-report inventories to identify levels of post-traumatic stress and grief following children's exposure to community violence. Based on their clinical experiences, they suggest that witnessing traumatic events may result in lessened interest in play, feelings of distance from family or friends, and a desire not to be aware of feelings. They also argue that the effects of exposure to violence are likely to be additive, thus increasing the risk of mental health problems among children who regularly witness violence.

Based on clinical experience in the community and their study of the extent of victimization found in a black outpatient psychiatric population, Bell and Jenkins (1991) suggest that manifestations of post-traumatic stress may depend on the age and developmental level of the child who has witnessed violence. Adolescent witnesses may be prone to acting out, self-destructive behaviors such as substance abuse, delinquent behavior, promiscuity, life-threatening reenactments, and aggression.

While attempting to estimate the prevalence of depressive symptoms in a normal school-aged urban population, Freeman, Mokros, and Poznanski (1993) noticed children spontaneously describing violent events. Subsequently, the researchers compared the level of depressive symptoms in children who reported exposure to violence and those who did not report traumatic experiences. They found significantly more clinical or suspected depression among children who reported witnessing violence.

Lorion and Saltzman (1990) attempted to systematically quantify exposure to violence by administering a Community Experience Survey to 170 fifth and sixth graders enrolled in two schools located in areas of significant community violence. The researchers also administered the Checklist of Child Distress Symptoms (Richters & Martinez, 1990), an inventory of post-traumatic stress symptoms, and the Child Depression Inventory (Kovaks, 1985). They report that children in the upper quartile of violence exposure had significantly higher distress levels than those children exposed to less violence. They also suggest that there may be gender differences in the effects of exposure to violence: girls experienced higher depression levels than boys, and boys showed higher distress levels than girls.

Martinez and Richters (1993) examined the relationship between violence exposure and depression and distress symptoms among groups of 111 first and second graders and 54 fifth and sixth graders. In the older group, reports of being victimized by and witnessing victimization of people familiar to the children were significantly associated with self-reports of distress and depression. Interestingly, there was no meaningful association between distress and exposure to violence involving strangers. The association between violence

exposure and distress was mediated by parental education: violence exposure was a better predictor of distress in children whose parents had not graduated from high school.

Fitzpatrick and Boldizar (1993) suggest that the nonrandom nature of exposure to chronic community violence necessitates focusing examinations of emotional distress on inner-city youth. Thus, they used a nonrandom sample of 221 low-income, inner-city African American youth (7 to 18 years old) to examine the relationship between exposure to violence and post-traumatic stress disorder symptoms. Using self-report questionnaires, Fitzpatrick and Boldizar found that boys were victims of and witnesses to significantly more violent acts than were girls. Regression analyses showed that both witnessing and being a victim of violence significantly predicted post-traumatic stress symptoms. In addition, females and youth who had no primary males living with them in the household exhibited more extreme symptoms in reaction to victimization.

Although these studies suggest an important relationship between exposure to violence and emotional distress, further refinement of research methods and increases in sample sizes are necessary. Current findings are limited by psychometric shortcomings, heavy reliance on self-report measures, and small sample sizes. The findings do, however, indicate the need for further corroboration of anecdotal evidence with quantitative analysis.

Domestic Violence

A number of studies have explored the effects on children of witnessing violence between their parents. Wolfe, Jaffe, Wilson, and Zak (1988) studied the degree to which parental conflict, ongoing negative life events, and sociodemographic disadvantage could

be used as predictors of problems in children's and mothers' adjustment. As is typical of many domestic violence studies, the authors utilized a sample of mothers and children in a shelter for battered women as well as a comparison group of mothers and children who had not been exposed to domestic violence. Findings support the hypothesis that children's behavioral problems are positively correlated with physical aggression between parents and negatively correlated with maternal functioning and adjustment. Like Rutter (1971), the authors also found boys to be more vulnerable to marital discord and stress, although they argue that this could be the result of mothers' biased assessment of their male children. Others suggest there may be a delayed onset of problems for girls (Reitsma-Street, Offord, Finch, & Dummitt, 1984).

In one of few studies employing an adolescent sample, Carlson (1990) found that approximately half of the youth at four residential treatment centers had witnessed marital violence. Male witnesses were significantly more likely than male non-witnesses to have run away from home and to have had suicidal thoughts. No significant differences were found between females who had witnessed and those who had not witnessed interparental violence.

Other studies of the effects of witnessing marital violence have found influences in a variety of areas: decreased social competence levels (Wolfe, Jaffe, Wilson, and Zak, 1986), increased likelihood of running away (Carlson, 1990; Rosenbaum, 1989), increased depression (Sturkie and Flanzer, 1987), increased physical aggression (Suh and Abel, 1990), increased conduct problems (Hershorn and Rosenbaum, 1985), and decreased self-esteem (Sturkie and Flanzer, 1987). Sex differences in findings have been inconsistent.

These studies have a number of limitations: small sample sizes; bias resulting from the use of "caught cases" (i.e., subjects from shelters and treatment centers); reliance on mothers' self-reports of children's adjustment; inadequate consideration of mediating variables, such as maternal education and functioning; and a lack of differentiation between children who have only witnessed violence and those who have also been victims of violence.

Violence in School

Adolescents' exposure to violence in school and its effects have only recently begun to be explored. Gustavsson and Balgopal (1990) contend that adolescents face danger at school as well as on the street. They report that 250,000 students are attacked at school in an average month (U.S. Senate Subcommittee on Juvenile Justice, 1981). A survey by a Boston commission to study high school safety found that 37% of boys and 17% of girls had carried a weapon to school at least once (Boston Commission on Safe Public Schools, 1983). The National Adolescent Student Health Survey found that, while at school, 34% of students said someone threatened to hurt them, 14% had been robbed, and 13% had been attacked (American School Health Association, 1989).

Although surveys have been conducted to estimate the incidence of violence in schools, few studies have been undertaken to investigate the impact of school violence on children's mental health. In one of few American studies, Simmons and Blyth (1987) report that children who have been victimized (robbed, threatened, or beaten) in school have lower self-esteem than their unvictimized counterparts.

Surveys of Japanese junior high school students have found that adolescents experiencing the most frequent victimization showed significantly lower self-esteem and self-satisfaction and more psychosomatic symptoms than classmates who were victimized less frequently (Takahashi, Nishimura, & Suzuki, 1982). Other Japanese studies have attempted to document the actual occurrence of eight kinds of violent victimization among a sample of 1,400 junior high school students (Suzuki, Nishimura, & Takahashi, 1983) as well as to define more clearly the factors determining classroom violence (Kobayahi and Takahashi, 1988).

Violence, Aggression, and Delinquency

A number of studies examining the relationship between exposure to violence and delinquent behavior among adolescents suggest that violent delinquents are more likely than nonviolent delinquents and controls to have experienced physical abuse (Lewis, Shanok, Pincus, & Glaser, 1979; Lewis, Shanok, & Balla, 1979; Gray, 1984; Widom, 1989; Rivera and Widom, 1990). These findings are particularly important in light of Gibbs' (1989) exhortation to consider the possibility of acting out as a "depressive equivalent" (p. 187).

Kratcoski (1982) examined case files of 863 incarcerated male juvenile delinquents and found that 26% had been physically abused. An Arkansas survey of 60 delinquent girls referred to a diagnostic center found that 53% reported sexual abuse and 51% reported injury from physical punishment (Mouzakitis, 1981). Lewis et al. (1979) studied 14 juvenile murderers on death row and found that all had been abused. She suggests that this history of abuse confirms her earlier findings (Lewis & Balla, 1976) that 80% of aggressive juvenile

delinquents had been victims of or witnesses to extremely violent family assaults while 20% of a comparison group of minimally aggressive juvenile delinquents had been exposed to similar severe violence.

In one of few studies utilizing a prospective cohorts design, Rivera and Widom (1990) compared criminal histories of 908 confirmed victims of physical and sexual abuse documented between 1967 and 1971 with the criminal histories of 667 matched control subjects who had not been abused. They found that childhood abuse increased the risk for offenses involving violence, particularly among males and blacks. However, abused and neglected females were more likely than control females to be arrested for violent offenses as juveniles. Abused and neglected males did not have higher rates of arrest as juveniles than did their control counterparts.

In another prospective study, Dodge et al. (1990) hypothesized that abuse would lead to aggressive behavior by affecting children's social information processing patterns. Using a representative sample of 309 four year olds, the researchers interviewed mothers regarding abuse, used vignettes to identify children's social information processing patterns, and assessed children's aggressive behavior six months later. Results revealed that abused children showed deficient patterns of social information processing (i.e., less attentive to relevant social cues, more likely to attribute hostile intent to others, and less capable of generating competent solutions to interpersonal problems). These patterns predicted the development of aggressive behavior six months later. Interestingly, no sex differences were found.

Other studies suggest that there is an association between depression and

adolescent aggression (Malmquist, 1991; Curry et al., 1988; Cairns et al., 1986; Chiles et al., 1980). Comparison of a violent and assaultive adolescent sample with norms from adolescents referred for psychiatric services showed that aggressive adolescents demonstrated significantly more externalizing problems than the mental health sample but similar amounts of internalizing problems (Curry et al., 1988). Examination of the incidence rate of suicide attempts in a group of violent adolescents showed that aggressive adolescents had a rate of 13.2 per 100 whereas the general population rate was 0.5 to 3 per 100 (Cairns et al., 1988). At particularly high risk of suicide were females and older white males.

A recent study of 225 urban black adolescents living in or around nine Georgia housing projects (Durant et al., 1994) found significant associations between self-reported use of violence on the one hand and, on the other, exposure to violence and victimization, hopelessness, depression, family conflict, previous corporal punishment, failure to find meaning in life, and self-assessment of the probability of being alive at age 25. When variables found to be reliably associated with self-reported use of violence were entered into a stepwise multiple regression, the strongest predictor of use of violence was previous exposure to violence and victimization, explaining almost 27% of its variance. Subjects were recruited by adolescent recruiters living in the targeted housing projects. Since non-response data for adolescents who refused participation were not collected by recruiters, it was not possible to determine the percentage of potential versus actual subject participation.

Although many of these studies are limited by methodological problems such as

reliance on self-report data, retrospective designs, lack of comparison groups, inadequate control of mediating variables such as socioeconomic status, and differences in definitions of abuse and delinquency, their findings underscore the importance of examining the prevalence of violence in the lives of troubled adolescents. The findings also point to the need for continued attention to behavioral and emotional correlates of abuse. It is important to note, however, that most of these studies explore only the relationship between delinquency and abuse experienced by children. Unlike the present study, they do not address the possibility of an additional relationship between delinquency and witnessing violence.

Coping Strategies

Given the correlations found between adversity and mental health problems, what is it that bolsters the resiliency of the majority of adolescents? Garmezy (1983, 1984) suggests there are three areas that help young people cope with negative events: personality attributes, family characteristics, and community social supports. Patterson and McCubbin (1987) suggest that adolescents face a variety of demands in their process of moving toward adulthood, e.g., developing an identity and fitting into a peer group. They argue that adolescents respond to these demands through a process of coping involving cognitive and behavioral strategies aimed at (1) eliminating, reducing, or redefining demands, (2) increasing resources to deal with demands, and/or (3) reducing the tension associated with the demands. Theories and measures of coping have been developed

primarily based on experiences of white, middle and upper middle, class adolescents. Although there are common elements in the issues and developmental tasks facing all adolescents, more research is necessary on how these processes are affected by issues facing inner-city adolescents, particularly chronic exposure to violence. Thus, this study examined adolescents' positive and negative coping strategies.

Conclusion

Although initial attempts have been made to measure adolescents' exposure to violence and to explore its concomitant effects, continued quantitative analysis is clearly necessary. The present study makes a unique contribution to this body of research by examining the differential and cumulative effects of adolescents' exposure to violence in three specific domains: at home, at school, and in the neighborhood. In addition, it adds to current knowledge concerning both the emotional and the behavioral correlates of exposure to violence as well as the coping mechanisms employed by adolescents.

METHODS

Design and Sampling

The study employed a survey design using a 25-minute, anonymous self-report questionnaire administered to high school students in the 1992–93 school year during usual school hours. The instrument was designed to be understood at the fifth grade reading level and was pretested on a socioeconomically diverse sample of adolescents.

Students were informed that their participation was completely voluntary.

The sampling pool consisted of all students present in six public high schools, grades 9–12. Schools included two Cleveland city high schools, one Cleveland area suburban high school, one small city high school in northeast Ohio, and two Denver city high schools. Students in the Cleveland and Denver city high schools resided predominantly in lower or lower-middle socioeconomic neighborhoods. The small city high school was located in an economically depressed area whose residents, primarily blue-collar workers, were experiencing high rates of unemployment. Students from the suburban school resided in a small upper middle class town.

Variables and Instrumentation

Demographic Variables: Demographic information included age, gender, grade level, race/ethnicity, parental composition in home (0, 1, or 2 parents present in household), and educational level of mother and father.

Recent Exposure to Physical Violence: Recent exposure to violence was measured by directly asking adolescents to report violence they had experienced or personally witnessed over the past year. The specific acts of violence addressed included threats, slapping/hitting/punching, beatings, knife attacks, and shootings. A six-point Likert scale ranging from "never" (0) to "almost every day" (5) was employed to assess the frequency of each type of violence. Students were asked to give separate reports of their experiences

with threats, hitting/slapping/punching, and beatings in the following sites: home, school, and neighborhood. They were also asked to report how often they had seen someone else victimized in these ways at home, in school, and in their neighborhoods. Reports of knife attacks and shootings were not site specific.

Past Exposure to Physical Violence: Past exposure to violence was tapped by asking adolescents to report specific acts of violence that they had either experienced or directly witnessed while growing up, not including the past year. The same violence categories described above were employed; however, the specific sites (home, school, neighborhood) were excluded because of the length of time between the occurrence of the event and the requested memory recall. A four-point Likert scale ranging from "never" (0) to "very often" (3) was used to assess the frequency of each type of violence.

Sexual Abuse/Assault: Adolescents were asked if they had been "made to do a sexual act" against their wishes in two time domains: over the past year, or "while growing up"–not including the past year. Similar questions were used to inquire about their witnessing someone else being made to perform a sexual act against his/her wishes. The items that measured recently being the victim/witness of sexual abuse/assault over the past year used the same Likert format as that employed in the Recent Exposure to Violence scale; the items querying about less recent sexual abuse/assault (witness/victim while growing up) used the same Likert construction as that used in the Past Exposure to Violence scale. Two variables denoting the degree to which sexual abuse/assault had occurred over a

subject's lifetime, one for personally experiencing and one for witnessing, were computed by combining and averaging "recent" and "past" exposure.

Recent Aggressive Behavior: Aggressive behaviors were measured by asking students to report how often during the past year they had engaged in each of six violent acts: threatening others, slapping or punching someone before the other person hit them, slapping or punching someone after they had been hit, beating up or mugging someone, attacking someone with a knife, and shooting at someone. A six-point Likert scale ranging from "never" (0) to "almost every day" (5) was employed to assess the frequency of each type of violence. Reports of these behaviors were not site specific.

Trauma Symptoms: Trauma symptoms were measured using the Trauma Symptom Checklist for Children (TSC-C) (Briere, 1989). This instrument, developed to assess sequelae of childhood trauma/abuse, was written to be understandable to children as young as eight years of age. The TSC-C contains 54 items and six subscales: anxiety, depression, post-traumatic stress, dissociation, anger, and sexual concerns. Reported reliability based on Cronbach's alpha is as follows: anxiety (.85–9 items), depression (.89–9 items), post-traumatic stress (.86–10 items), dissociation (.83–10 items), anger (.84–9 items), sexual concerns (.68–10 items), and total TSC-C score (.96–54 items). Requests by school administrators resulted in the removal of all items related to the sexual concerns subscale.

All five subscales employed in this study achieved acceptable reliability for this

sample as demonstrated by the following Cronbach's alphas: .82 (anxiety), .86 (depression), .87 (post-traumatic stress), .83 (dissociation), .89 (anger), and .95 (total TSC-C score).

Coping Strategies: Students were asked to report on the frequency with which they used each of 17 coping strategies to deal with feeling upset or uptight. Strategies included playing sports; talking to a friend; getting angry and yelling at people; sleeping; watching television; saying something mean to people; helping others with problems; using drugs or alcohol; talking to a family member; going to church; participating in school activities; being with a boyfriend or girlfriend; crying; talking to a teacher, minister, or counselor; listening to music; joking; and being by themselves. Ratings for each strategy were made on a four-point Likert-type scale ranging from "never" (0) to "almost all the time" (3).

RESULTS

Demographic Information

Six public high schools participated in this study. As a proportion of the total sample, the percentage of respondents from each school site is as follows.

TABLE 1. SAMPLE SITE: PERCENTAGE OF TOTAL SAMPLE

SCHOOL SITE	N	PERCENTAGE OF TOTAL SAMPLE
City of Cleveland (2 schools)	1228	32.9%
City of Denver (2 schools)	1265	33.9%
Small Ohio City	862	23.1%
Cleveland Suburb	379	10.1%

A total of 3,735 students participated in this study. This figure represents 68% of the 5,509 students present in all schools at the time of the survey. Slightly more females (52%) than males are represented in the samples. The modal grade level is ninth grade, and the average age of the participants is 16 years old (SD = 1.2). Percentages of participating students ages 14 and older are presented below.

TABLE 2. AGE: DISTRIBUTION IN TOTAL SAMPLE

AGE	PERCENTAGE
14	10.8%
15	26.2%
16	27.3%
17	22.9%
18	10.5%
19	1.9%
over 19	.3%

Students were asked how they described themselves. Percentages of students in each ethnic category are as follows:

TABLE 3. RACE: TOTAL SAMPLE

RACE	PERCENTAGE
Black or African American	34.5%
Hispanic	22.7%
White or Caucasian	33.2%
Oriental or Asian American	3.7%
Other	4.9%

Students were also asked to report which parents were currently living with them.

TABLE 4. LIVING SITUATION: TOTAL SAMPLE LIVING SITUATION PERCENTAGE

LIVING SITUATION	PERCENTAGE
Mother and Father	53.3%
Mother Only	35.0%
Father Only	5.3%
Neither Mother nor Father	6.0%

Including the student, the average number of people living in the home was 4.6. Students were asked to report the highest level of education completed by both their mothers and their fathers.

**TABLE 5. PARENTAL EDUCATION:
TOTAL SAMPLE HIGHEST LEVEL OF EDUCATION**

HIGHEST LEVEL OF EDUCATION COMPLETED	MOTHER	FATHER
Do Not Know	14.5%	25.2%
Less than High School	20.2%	17.5%
High School	49.0%	38.8%
Four-Year College	16.3%	18.4%

UNIVARIATE ANALYSES

Percentage of Students Victimized by Violence within the Past Year

As shown in Table 6, a number of important findings emerged from students' reports of victimization during the past year. Although males were generally the most frequent victims across domains and types of violence, females were more frequently victimized at home than were their male counterparts. A higher percentage of girls than boys reported being threatened, slapped/hit/punched, and beaten at home. Moreover, this finding was consistent across all four sampling sites. Sexual abuse was also far more common among females than males. The percentage of girls who reported being sexually abused during the past year was remarkably consistent across all four sites. Approximately one in six females reported having been forced to do an unwanted sexual act at least once during the past year.

TABLE 6. PERCENTAGES OF STUDENTS *VICTIMIZED* BY VIOLENCE WITHIN THE PAST YEAR BY GENDER

TYPE OF VIOLENCE	DENVER CITY (N=1,265)		CLEVELAND CITY (N=1,228)		SMALL OHIO CITY (N=862)		CLEVELAND SUBURB (N=379)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Threatened at home	25.0	22.7	25.4	23.7	32.2	28.9	13.7	16.9
Threatened at school	38.6	42.4	30.5	34.8	38.9	48.3	12.1	32.3
Threatened in neighborhood	23.4	37.3	29.1	42.9	18.1	36.6	7.4	12.7
Hit/punched at home	44.1	31.9	47.4	36.1	56.2	39.8	34.2	26.5
Hit/punched at school	27.2	40.9	22.4	32.5	17.7	37.9	13.7	44.4
Hit/punched in neighborhood	9.0	24.2	17.6	31.6	11.1	23.7	2.6	12.7
Beaten at home	8.1	5.1	10.4	8.6	9.1	6.3	3.7	3.2
Beaten at school	5.2	10.4	3.6	9.1	4.0	5.6	.5	1.1
Beaten in neighborhood	5.2	10.5	8.8	22.4	4.0	11.5	.5	3.2
Sexually abused/assaulted	16.2	4.6	16.3	7.0	17.3	3.9	12.1	1.6
Knife attack or stabbing	7.5	14.1	9.1	16.0	3.8	14.9	0	5.8
Shot at or shot	11.9	28.3	10.1	33.4	4.0	18.8	.5	2.6

Reports of being slapped, punched, or hit at home and at school were common among students from the central city schools, the small city school, and the suburban school. Only girls from the suburban school reported a lower percentage of slapping incidents at home: one-third reported being slapped, hit or punched during the past year. Boys appear to be particularly vulnerable to slapping or hitting incidents at school. More than one-third of the males from all four sampling sites reported being slapped, hit, or punched at school. Interestingly, the highest percentage of these incidents was found among suburban boys (44.4%).

Neighborhood violence emerged as a particular problem among central and small city students. Victimization in the neighborhood was far more common among boys than among girls. More than one-third of males from the two central city sites and the small city site reported being threatened in their neighborhood at least once during the past year. Females, however, were not immune to threats: approximately one-quarter of girls from these three sites reported being threatened. The percentage of males who reported being beaten up in their neighborhood was strikingly high in the Cleveland central city sample: almost one-quarter of these males reported being beaten up at least once during the past year.

Finally, one of the most alarming findings with respect to victimization was the percentage of students from both central city sites who reported being shot at or shot during the past year. Boys were at particular risk for this type of violence exposure. Approximately one-third of the males from the two central city sites reported being shot at during the past year. Approximately one in ten females made similar reports. Interestingly, the percentage of central city boys who reported being attacked with a knife or stabbed was only half that of the percentage who reported being shot at. Although reports of knifings and shootings in the small city sample were less common than those in the central city sample, the percentage of boys from the small city site who reported being shot at or shot (18.8%) was only slightly higher than the percentage who reported being attacked with a knife (14.9%). This finding reflects the growing presence of guns in central cities and portends an increase in the number of deaths resulting from the use of these lethal weapons.

Percentages of Students Witnessing Violence within the Past Year

Although the percentage of students who reported witnessing violence during the past year was higher than the percentage who reported being victimized, there were many similar patterns. As shown in Table 7, across all four sample sites, girls reported witnessing more violence at home than did their male counterparts. Approximately half of the females from the two central city sites and the small city site reported seeing someone slapped, punched or hit at home. Witnessing beatings at home was particularly common among girls in the Cleveland central city sample: almost one-third of these females reported seeing someone beaten up at home.

Unlike the findings with respect to being sexually abused, the percentages of females and males who reported witnessing sexual abuse were similar. Slightly less than one in five students from the central city and small city sites reported seeing someone else forced to do a sexual act. In the suburban sample, there was a slightly larger difference between the percentage of males (9.0%) and females (15.3%) who had witnessed sexual abuse.

Witnessing violence at school was common among students from all four sites. For all types of school violence, gender differences in exposure were minimal. More than three in four males and females reported witnessing someone else being threatened and/or slapped, hit, or punched at school during the past year. Only among suburban females were percentages slightly lower for witnessing threats (63.7%) and slaps or punches (60.5%). The percentage of students who reported witnessing beatings at school was

TABLE 7. PERCENTAGES OF STUDENTS *WITNESSING* VIOLENCE WITHIN THE PAST YEAR BY GENDER

WITNESS TO SOMEONE BEING	DENVER CITY		CLEVELAND CITY		SMALL OHIO CITY		CLEVELAND SUBURB	
	(N=1,265)		(N=1,228)		(N=862)		(N=379)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Threatened at home	39.5	32.4	47.1	39.2	41.5	34.6	16.8	16.4
Threatened at school	82.6	84.4	79.0	81.8	87.6	89.3	63.7	70.4
Threatened in neighborhood	52.7	61.4	72.9	78.2	52.0	69.9	22.1	28.6
Hit/punched at home	44.4	33.6	57.7	47.5	52.3	39.3	25.8	20.6
Hit/punched at school	88.1	89.3	86.0	88.3	93.3	93.2	60.5	81.0
Hit/punched in neighborhood	49.8	63.4	75.9	82.3	50.6	67.0	16.3	25.4
Beaten at home	16.9	11.7	31.1	23.4	18.6	16.1	4.2	1.1
Beaten at school	72.8	76.8	74.8	74.7	82.1	81.7	23.7	32.3
Beaten in neighborhood	35.6	46.6	67.3	72.2	35.8	52.4	5.3	11.1
Sexually abused/assaulted	17.6	16.0	20.0	21.3	19.3	16.1	15.3	9.0
Knife attack or stabbing	30.4	38.1	43.7	46.3	27.9	34.9	6.8	14.3
Shot at or shot	37.1	48.8	48.8	62.2	25.3	35.5	4.7	5.3

strikingly high in the central city and small city samples. Approximately three in four central city and small city students reported witnessing at least one beating at school during the past year. Witnessing beatings at school was less common among the suburban students. Approximately one in four suburban females and one in three suburban males reported witnessing a beating at school.

Exposure to neighborhood violence was a particular problem among central and

small city students. Students from the Denver central city and the small Ohio city sites had similar exposure rates: approximately one-half of the females and two in three males had seen someone threatened or slapped/hit/punched in their neighborhood. Approximately one-third of the females and one-half of the males had witnessed a beating in their neighborhood. Students from the Cleveland central city sample, however, reported even more extensive exposure to neighborhood violence. Moreover, the rates of exposure for girls and boys were similar: approximately three in four males and females had witnessed threats, slaps, and beatings during the past year.

Alarming exposure rates were found with respect to the percentages of central city adolescents who reported witnessing shootings. Approximately one-half of Cleveland central city males and females and Denver central city males reported witnessing at least one shooting during the past year. Slightly fewer (37.1%) Denver central city females made similar reports. Similar to the findings of being victimized by gunfire, witnessing shootings was far more common than witnessing knifings in central cities.

Lifetime Violence Exposure

Victimization and Witnessing

As shown in Table 8, reports of lifetime victimization suggest that no adolescent is immune to violence exposure regardless of his or her place of residence. From one-half to three-quarters of all males and females from the central and small city sites reported being threatened and/or slapped at some point in their lives. Although threats were

relatively less common among suburban girls (29.5%), approximately one-half of suburban boys reported being threatened at some point. Approximately half of suburban males and females also reported being slapped, punched, or hit. Beatings, however, were more common among students from the central and small city sites than among suburban students: from one-fifth to one-third of males and females from the central and small city sites reported having been beaten while 7.4% of suburban females and 13.2% of suburban males made similar reports. The percentage of females reporting sexual abuse was consistent across all four sites. Approximately one in five females from the central and small city schools reported being made to do a sexual act against their wishes while one in six suburban females made similar reports.

Consistent with reports of exposure to gunfire during the past year, a large number of males in the central city samples reported being the victim of a shooting or an attempted shooting. Two in five Cleveland central city males and one in three Denver central city males reported being shot at or shot during their lifetime. Twice as many males from each site reported being the victim of gunfire as being the victim of a knife attack.

As shown in Table 8, approximately 90% of both males and females from the central and small city samples reported witnessing threats, slaps/hits/punches, and beatings at some point in their lives. Suburban youths, although slightly less likely to witness these types of attacks, were not immune to violence exposure. In fact, more than 90% of suburban males reported witnessing someone being slapped punched or hit. Almost one-half of suburban males reported witnessing a beating, as did one-third of suburban females.

TABLE 8. LIFETIME VIOLENCE EXPOSURE

	DENVER CITY		CLEVELAND CITY		SMALL OHIO CITY		CLEVELAND SUBURB	
	(N=1,265)		(N=1,228)		(N=862)		(N=379)	
TYPE OF VIOLENCE (VICTIM)	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Threatened	61.7	71.1	60.1	66.2	62.6	75.6	29.5	51.3
Hit/punched	68.5	70.6	66.3	68.0	71.7	76.1	47.9	68.3
Beaten up	20.0	25.8	21.7	36.6	17.9	25.1	7.4	13.2
Sexually abused	20.9	7.1	20.3	10.3	23.7	6.8	14.7	2.6
Knife attack or stabbing	9.3	17.6	10.7	20.4	5.5	16.6	1.1	7.9
Shot at or shot	13.7	31.9	12.1	41.2	5.1	21.0	.5	4.8
WITNESS TO SOMEONE BEING:								
Threatened	91.1	92.1	91.8	93.6	95.1	95.9	72.1	81.0
Hit/punched	94.7	95.6	96.4	96.2	97.8	98.5	76.3	91.0
Beaten up	80.9	86.0	89.0	90.2	89.6	91.2	34.2	44.4
Sexually abused	24.0	21.4	26.5	28.0	25.7	19.8	16.8	12.7
Knife attack or stabbing	38.8	46.9	52.8	57.9	35.2	40.2	6.8	17.5
Shot at or shot	43.1	52.8	53.3	68.6	28.3	39.3	5.8	6.9

Although being sexually abused was most common among females, approximately one-quarter of both males and females from the central and small city sites witnessed sexual abuse. The percentages of suburban males (12.7%) and females (16.8%) who witnessed sexual abuse were only slightly lower than that of their central and small city counterparts.

Witnessing shootings and knifings was particularly common among Cleveland central city males and females and Denver central city males: more than half of these students reported witnessing these types of violence. Slightly fewer Denver central city females reported witnessing knife attacks (38.8%) and shootings (43.1%). The similarity between the percentage of students who reported seeing gun and knife attacks anytime in the past, coupled with the disparity between the percentage of adolescents who reported witnessing shootings and knifings in the past year, suggest that guns are increasingly becoming the weapons of choice in American cities.

Self-reported Violent Behaviors within the Past Year

As shown in Table 9, a number of important findings emerged from students' reports of their own violent behaviors within the past year. First, the percentage of both males and females who reported hitting someone before being hit was high for all four sites. Approximately half of males and females from each sample site reported hitting someone before they were hit. The only exception was suburban females, more than one-quarter of whom reported hitting someone first. Performance of this violent anticipatory behavior is reinforced by the images adolescents are exposed to in the entertainment media. The glamorization of heroes who strike first sends an important message to young people: "Get the other guy before he (or she) gets you."

TABLE 9. SELF-REPORTED VIOLENT BEHAVIORS WITHIN THE PAST YEAR

	DENVER CITY		CLEVELAND CITY		SMALL OHIO CITY		CLEVELAND SUBURB	
	(N=1,265)		(N=1,228)		(N=862)		(N=379)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Threatened others	36.3	55.3	41.1	58.7	42.3	63.9	14.7	46.6
Hit someone before they hit you	46.6	51.5	57.3	64.6	42.7	61.0	27.4	50.3
Hit someone after they hit you	65.3	70.9	75.7	79.2	66.6	74.6	40.5	70.9
Beat someone up	14.2	28.1	24.0	43.0	15.5	32.9	0	10.1
Knife attack or stabbing	4.6	8.4	10.5	10.0	4.0	9.5	0	3.2
Shot at or shot	4.3	17.6	4.5	25.2	1.3	16.7	.5	2.6

The number of young people who reported hitting someone after being hit was similarly high across all sample sites. Approximately three in four males and females from each site reported hitting someone after they had been hit. Slightly fewer suburban girls made similar reports (40.5%). These percentages reflect the strength of adolescents' impulses for physical retaliation. Exposure to violence and the modeling of violent behavior are likely contributors to the development of these impulses.

Finally, central and small city males' reports of shooting others suggest that these young men are not only victims of gunfire but also perpetrators of gun violence. One in every four or five males from the central and small city samples reported shooting at someone at least once during the past year. These percentages are twice those of males who reported attacking someone with a knife during the past year. Clearly, guns have

replaced knives as a common weapon. The potential lethality of a shooting as compared to a knifing has serious implications for the health and safety of our children.

MULTIVARIATE ANALYSES

The Relationship between Violence Exposure and Trauma Symptoms

Principal Component Analyses

Before testing the relationships between violence exposure and trauma symptoms, we performed separate principal component analyses on the Recent Exposure to Violence items (22) and the Past Exposure to Violence items (10) using varimax rotation. This technique was employed as a data reduction method; that is, the scales' dimensions were determined by explaining the maximum amount of variance in the violence exposure items using as few dimensions as possible. The correlation matrix was examined first to see if the data were appropriate for factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy was used to determine if all items shared significant variance (criterion $\geq$ .60) (Kaiser, 1970). In addition, the anti-image correlation matrix was examined to determine if each item shared significant variance with other items (criterion $\geq$ .60). The number of factors extracted was determined by the following criteria: (1) Kaiser's eigenvalue greater than unity rule (Kaiser, 1960), (2) variance explained by the factors, and (3) the number of items loading on each factor (to gain a parsimonious solution, a minimum of three items for each factor was used). In order to be included in their corresponding factors, individual items needed to attain factor loadings of $\geq$ .40. After establishing the factor structures, reliability tests were performed for each dimension.

Recent Exposure to Violence: The 22 items measuring recent exposure to violence were subjected to principal component analysis using varimax rotation to identify their factor dimensions. Five factors were extracted based on an eigenvalue of greater than one. Approximately 57% of the total variance on the 22 items was explained by the five factors, with the communality of each item above .45. The five-factor solution yielded an interpretable factor structure.

The five factors grouped the items by types of violence, being a witness or victim, and the sites at which the violence occurred. The items constituting each factor are outlined in Table 10. The first factor was composed of three items that referred to witnessing neighborhood violence. The second factor, namely witness/victim of home violence, comprised six items. The third factor was based on three items that measured witnessing of school violence. The fourth factor included four items that represented being the witness/victim of a shooting/knife attack. None of the questions composing this factor were site specific. The final factor consisted of the three items that reflected being a victim of neighborhood or school violence. All five factors had acceptable reliability, with the following Cronbach's alphas being achieved for each of the five indices respectively: .87 (1), .75 (2), .80 (3), .70 (4), and .68 (5).

Past Exposure to Violence: Three factors were extracted from the ten items tapping past exposure to violence (see Table 11). The three factors explained 64% of variance among the items. The clustering of items was consistent with the results from the Recent Exposure to Violence index. The first factor was composed of three items that measured witnessing

TABLE 10. PRINCIPAL COMPONENT ANALYSIS FOR RECENT VIOLENT EXPOSURE SCALE (N=3702)

	ITEMS/FACTORS	F1	F2	F3	F4	F5
F1:	**WITNESSING IN NEIGHBORHOOD**					
1.	Slapped, punched, or hit	.78				
2.	Beaten or mugged	.71				
3.	Threatened	.69				
	Cronbach's alpha = .87					
	Eigenvalue = 6.26					
F2:	**VICTIMIZED/WITNESSING AT HOME**					
1.	Self been slapped		.70			
2.	Self been threatened		.68			
3.	Someone else been slapped		.67			
4.	Self been beaten		.64			
5.	Someone else been threatened		.62			
6.	Someone else been beaten		.59			
	Cronbach's alpha = .75					
	Eigenvalue = 2.10					
F3:	**WITNESSING AT SCHOOL**					
1.	Threatened			.79		
2.	Been slapped, punched, or hit			.77		
3.	Been beaten or mugged			.73		
	Cronbach's alpha = .80					
	Eigenvalue = 1.75					
F4:	**SHOOTING/KNIFE ATTACK**					
1.	Self been attacked or stabbed				.68	
2.	Someone else been shot at or shot				.65	
3.	Self been shot at or shot				.65	
4.	Someone else been attacked or stabbed				.63	
	Cronbach's alpha = .70					
	Eigenvalue = 1.39					
F5:	**VICTIMIZED AT SCHOOL OR IN NEIGHBORHOOD**					
1.	Been slapped at school or in neighborhood					.65
2.	Been slapped in neighborhood					.63
3.	Been beaten at school					.60
4.	Been beaten in neighborhood					.52
5.	Been threatened at school					.52
6.	Been threatened in neighborhood					.51
	Cronbach's alpha = .68					
	Eigenvalue = 1.13					

past violence. The second factor, composed of four items, was specific to past exposure to very serious violence, witness/victim of knife attack, and/or shooting . The third factor included the three items that referred to being the victim of past violence. Acceptable Cronbach's alphas were achieved for each factor: .80 (1), .71 (2), and .66 (3).

Computation of Factor Scores: Based on the results of the aforementioned principal component analyses, a total of eight factor scores was created (three for past violence exposure, five for recent violence exposure). To avoid multicollinearity, correlations between pairs of factor scores were examined. Only "recent exposure to shooting and knife attack" and "past exposure to shooting and knife attack" were found to be highly correlated (r=.62); therefore, an average score was computed as a measure of "lifetime" exposure to shooting and knife attack and used in the following regression equation.

Multiple Regression Analyses

Subsequent to the above analyses, factor scores were generated for use in multiple regression analyses. A series of hierarchical multiple regression analyses was conducted on the TSC-C to determine the effects of students' recent and past exposures to violence on their mental health status, controlling for their demographic attributes. Separate equations were developed for the TSC-C's total score and for each of its five subscales: anxiety, depression, stress dissociation, and anger. For each analysis, five demographic variables were treated as control variables and entered as an initial block. The demographic variables included age, living arrangement (two-parent household vs. not two-

TABLE 11. PRINCIPAL COMPONENT ANALYSIS FOR PAST VIOLENT EXPOSURE SCALE (N=3705)

	ITEMS/FACTORS	F1	F2	F3
F1:	**PAST WITNESSING**			
1.	Someone else been slapped, punched, or hit	.82		
2.	Someone else been threatened	.79		
3.	Someone else been beaten or mugged	.76		
	Cronbach's alpha = .80			
	Eigenvalue = 3.78			
F2:	**PAST EXPOSURE TO SHOOTING OR KNIFE ATTACK**			
1.	Self been shot at or shot		.75	
2.	Someone else been shot at or shot		.70	
3.	Self been attacked or stabbed		.69	
4.	Someone else been attacked or stabbed		.60	
	Cronbach's alpha = .71			
	Eigenvalue = 1.41			
F3:	**Past Victimized**			
1.	Self been slapped, punched, or hit			.78
2.	Self been threatened			.74
3.	Self been beaten or mugged			.68
	Cronbach's alpha = .66			
	Eigenvalue = 1.20			

parent household), race, gender (0=female, 1=male), and parental education. Two dummy variables were created for "parental education": non-high school graduate and college graduate; high school graduate was used as a reference group. Likewise, two dummy variables were created for "race": Hispanic and Caucasian; African American was treated as a reference group. A second block of variables, composed of factor scores generated from the factor structures of the Recent Exposure to Violence scale, the Past Exposure to Violence scale, "lifetime victim of sexual abuse/assault" score, and "lifetime witness to

sexual abuse/assault" score, was entered into the model to examine the variables' effects on adolescents' trauma status. Differences across study sites were explored as an internal validity check of the overall model, so that the above analyses were conducted for the total sample and were repeated for each study site. However, race was not included in the regression model for the suburban sample because the sample was almost exclusively (98%) Caucasian.

Total Sample: Through use of multiple regression analyses, the relationship between violence exposure and overall trauma symptoms (measured by total TSC-C score) was assessed for students across school sites. The results revealed that after controlling for the demographic variables, "violence exposure" variables explained a significant proportion of variance in the total TSC-C score, and in each subscale score. The variance explained by "violence exposure" variables was 30% for the total TSC-C score and ranged from 19% to 27% across symptom subscales (see Table 12). Thus, violence exposure was a salient factor in predicting trauma symptoms; the greater the violence exposure, the higher the scores for total trauma symptoms and the higher the scores for each of the five symptom subscales.

The relative importance of variables in predicting trauma symptom status was determined by comparing standardized regression coefficients or beta weights (B). Due to the large sample size, relatively small beta weights ($B<.10$) achieved statistical significance. Since beta weights of this magnitude are considered weak, only significant B's $\geq .10$ will be reported. Gender was the only significant and powerful contributor within

the demographic variables block, with results indicating that female students had higher scores on the total trauma symptom scale (B=-.25; p<.01), and on the anxiety (B=-.32; p<.01), depression (B=-.31; p<.01), post-traumatic stress (B=-.25; p<.01), dissociation (B=-.16; p<.01), and anger (B=-.11; p<.01) subscales. As judged by their standard regression coefficients across TSC-C subscales, the most important violence exposure factors were being a witness to or victim of home violence (B range = .14–.23; p<.01); being threatened, slapped/hit/punched, and/or beaten in the past (B range = .14–.17; p<.01); and being the victim of sexual abuse (B range = .12–.19; p<.01). A notable exception was found on the anger subscale, where exposure (witness or victim) to shooting or knife attack (B=.20; p<.01) and the witnessing of past violence (B=.21; p<.01) were additional important covariates of anger.

Cross-Site Comparisons: As demonstrated by Table 12, the variance in trauma symptom scores accounted for by violence exposure variables, while controlling for demographic variables, was quite consistent across sites. With only one exception on the anxiety subscale, the largest difference in explained variance (R^2) across the sites ranged from .03 to .07 across trauma symptom subscales. In addition, the model that included both demographic and violence exposure variables was remarkably reliable; the largest R^2 differences among sites ranged from only .04 to .08 across trauma symptoms.

Several demographic variables were not significantly associated with trauma symptoms. Parental composition in home and student age did not have a significant effect on any trauma symptom. Parental education was not associated with trauma symptoms.

TABLE 12. VARIANCE EXPLAINED (R^2) FOR TSC-C TOTAL SCALE AND SUBSCALES BY STUDY SITE

VARIABLES	TOTAL SAMPLE	SMALL OHIO CITY	CLEVELAND SUBURB	CLEVELAND CITY	DENVER CITY
TOTAL SYMPTOM SCORE					
Demographic	.08	.07	.08	.07	.07
Violence Exposure	.30	.31	.25	.30	.31
Total Adjusted R^2	.38	.38	.32	.36	.37
ANXIETY					
Demographic	.10	.10	.15	.09	.08
Violence Exposure	.20	.24	.11	.20	.21
Total Adjusted R^2	.30	.33	.25	.28	.29
DEPRESSION					
Demographic	.12	.11	.15	.11	.11
Violence Exposure	.19	.19	.15	.22	.20
Total Adjusted R^2	.31	.30	.29	.32	.30
POST-TRAUMATIC STRESS					
Demographic	.09	.07	.10	.06	.08
Violence Exposure	.22	.25	.22	.21	.24
Total Adjusted R^2	.32	.32	.31	.26	.31
DISSOCIATION					
Demographic	.03	.02	.05	.03	.03
Violence Exposure	.21	.19	.18	.23	.22
Total Adjusted R^2	.24	.20	.22	.26	.25
ANGER					
Demographic	.03	.01	.03	.02	.01
Violence Exposure	.27	.26	.27	.27	.31
Total Adjusted R^2	.30	.27	.28	.29	.32

Note: 1. Each R^2 change due to violence exposure variables was significant $p < .0001$.
2. Each R^2 for the whole model was significant $p < .0001$.

Race/ethnicity was not a significant predictor of trauma symptoms for the small city sample. For the Denver sample, race/ethnicity had a significant but weak effect on depression scores (B=.10; p<.01), with Caucasians having higher depression scores than African Americans while other variables were held constant. Hispanics had higher scores than African Americans on anxiety (B=.12; p<.01) and depression (B=.10; p<.01). It is important to note, however, that the effects/magnitudes of racial/ethnic differences based on standardized regression coefficients (B's) were small and that "race" may be confounded with variables (such as population density or socioeconomic status) that were not measured in this study.

Being a recent "witness of someone else being threatened, slapped/hit/punched, or beaten in the neighborhood" was not reliably associated with trauma symptoms at any site. Witnessing sexual abuse was not associated with trauma symptoms. Finally, it is worth noting that fewer numbers of independent variables across each trauma symptom were significant for the suburban school compared to the other three sites (e.g., the suburban school had five significant variables related to the total trauma symptom score, the other sites had seven to nine significant variables related to this score). This difference was probably due to the more limited types and amounts of violence exposure and trauma symptoms experienced by the suburban sample.

Consistent with findings from the entire sample, female gender was the most important single demographic predictor of total trauma symptoms (B range=-.22 to -.31; p<.01), depression (B range= -.29 to -.40; p<.01), anxiety (B range=-.29 to -.42; p<.01), and post-traumatic stress (B range=-.24 to -.33; p<.01) across all four sites. Among

violence exposure variables, having been the victim of sexual abuse was a significant predictor of total trauma symptoms (B range=.15 to .24; p<01), anxiety (B range=.11 to .23; p<.05), depression (B range=.16 to .23; p<.01), dissociation (B range=.13 to .21; p<.01), and post-traumatic stress (B range=.14 to .25; p<.01) for each site. With the exception of the suburban sample, being a recent victim or witness to home violence (i.e., threats, slaps/hits/punches, or beatings) was reliably associated with total trauma symptoms (B range=.22 to .23; p<.01) and all five trauma subscales: anxiety (B range=.14 to .19; p<.01), depression (B range=.16 to .25; p<.01), post-traumatic stress (B range=.17 to .21; p<.01), dissociation (B range=.18 to .23; p<.01), and anger (B range=.18 to .24; p<.01). In the suburban sample, having been a recent witness or victim of home violence was significantly associated with total trauma symptoms (B=.14; p<.01), depression (B=.12; p<.01), post-traumatic stress (B=.14; p<.01), and anger (B=.23; p<.01).

In all but the suburban sample, having been a past victim of threats, slaps/hits/punches, or beatings was associated with higher total trauma symptom scores (B range=.13 to .23; p<.01) and higher subscale scores for anxiety (B range=.15 to .21; p<.01), depression (B range=.16 to .21; p<.01), and anger (B range=.12 to .17; p<.01). For all sites, being a past witness to someone being threatened, slapped/hit/punched, or beaten was related to higher scores on total trauma symptoms (B range=.13 to .27; p<.01), post-traumatic stress (B range= .10 to .23; p<.01), and anger (B range=.16 to .31; p<.01). Finally, similar to the findings for the total sample, exposure to shootings or knife attacks contributed to higher anger scores across all sites (B range=.18 to .26; p<.01).

Conclusions and Summary

The data disclosed reliable statistical associations between exposure to violence and trauma symptoms. Violence exposure had a positive and significant independent association with depression, anger, anxiety, dissociation, post-traumatic stress, and total trauma symptoms. It is important to note that the associations between violence exposure and trauma symptoms were reliable within each site as well as for the entire group of sites, suggesting a robustness to the examined relationships.

Although there was less severe violence exposure among suburban adolescents, the association between violence exposure and trauma symptoms was similar in significance and magnitude to that of adolescents from other sites. Living in a suburban environment did not protect these youth from violence-associated trauma symptoms. Conversely, adolescents in the large city samples did not habituate to their high levels of violence exposure, as they also displayed substantial trauma symptoms related to violence exposure.

Our analyses also revealed that certain types of violence exposure were highly associated with specific categories of trauma symptoms. Having been a recent witness or victim of home violence, having been sexually abused, and having been a past victim of threats, slaps/hits/punches, or beatings were strongly associated with total trauma symptom score and four of the five subscale scores: anxiety, dissociation, stress, and depression. Important predictors of anger included having been a recent victim or witness of home violence, having been a witness or victim of a knifing or shooting, and having been a past witness to threats, slaps/hits/punches, or beatings.

The Relationship between Violence Exposure and Violent Acts:

Principal Component Analysis on Violent/Predatory Behavior Scale

We performed principal component analysis on the six items designed to capture adolescents' own violent and predatory behaviors. Overall, these six items had significant correlations with each other (ranging from .21 to .64). The results indicated that the scale measured only one construct, namely Own Violent/Predatory Behaviors (OVPB) (see Table 13). This factor accounted for 51 percent of the variance among the items. As can be seen in Table 13, each item had high loading on the factor (all above .56). Furthermore, the six items in this scale had acceptable reliability (Cronbach's alpha=.79). As a result, a factor score took into account the relationship between each item and the factor was computed to represent levels of adolescents' own violent and predatory behaviors and utilized in subsequent multiple regression analyses.

TABLE 13. PRINCIPAL COMPONENT ANALYSIS USING VARIMAX ROTATION ON THE VIOLENT/PREDATORY BEHAVIOR SCALE (N=3705)

ITEMS:	FACTOR	VIOLENT/PREDATORY BEHAVIORS
1.	Slapped, punched, or hit someone before being hit	.81
2.	Threatened others with serious physical harm	.79
3.	Beat up or mugged someone	.77
4.	Slapped, punched, or hit someone after being hit	.71
5.	Shot at or shot someone with a real gun	.63
6.	Attacked or stabbed someone with a knife	.56
	Cronbach's alpha = .79 Eigenvalue = 3.07	

Relationships between Adolescents' Violence Exposure and Own Predatory Behaviors

OVPB was regressed on nine violence variables and seven demographic variables, including living arrangement, gender (0-female, 1-male), age, race (Hispanic and Caucasian), and parental education (non-high school graduate and college graduate). We conducted hierarchical multiple regression analysis by first entering the seven demographic variables into the model, and then entering the violence exposure variables in order to examine the variance explained by the violence exposure variables while controlling for the demographic variables. This analysis was executed separately for the total sample and for each site.

Total Sample

The results of our analyses revealed that a significant amount of variance in OVPB was explained by the violence exposure variables while the demographic variables were held constant. The R^2 increment due to violence exposure was .39, and about 48% of variance in OVPB was explained by all of the sixteen independent variables (see Table 14). Table 15 reports the detailed information concerning the significance of each independent variable. Among the demographic variables, gender, age, and Hispanic ethnicity were significant predictors of OVPB ($p<.05$); boys and younger adolescents had higher levels of violent/predatory behaviors. Hispanic adolescents had lower levels of OVPB than African American youth. Among the violence exposure variables, seven out of

nine were significant (p<.05). "Past victim of threat, slap, and beating" and "lifetime victim of sexual abuse" were not significant in predicting OVPB. Among the seven significant predictors, "exposure to shooting/knife attack" was found the most important variable in predicting OVPB (Beta=.39), followed by "recent victimization at school or in neighborhood" (Beta=.23). "Recent witnessing threat/slap/beating in neighborhood" and "recent victim/witness at home" were also important in predicting OVPB (Beta=.19 and .19, respectively).

TABLE 14. VARIANCE EXPLAINED (R^2) FOR OWN VIOLENT/PREDATORY BEHAVIOR SCORES

VARIABLES	TOTAL SAMPLE	SMALL OHIO CITY	CLEVELAND SUBURB	CLEVELAND CITY	DENVER CITY
Demographic	.09	.10	.10	.07	.06
Violence Exposure	.39	.40	.47	.41	.41
Total Adjusted R^2	.48	.50	.56	.48	.47

Note: 1. Each R^2 change due to violence exposure variables was significant at p <.001.
2. Each total adjusted R^2 was significant at p <.001.

Cross-Site Comparisons

The R^2 increment due to violence exposure was significant across all four sites, with R^2's ranging from .40 to .47 (see Table 15). This result demonstrated the degree to which adolescents' own violent/predatory behaviors can be explained by violence exposure across the four socioeconomically and geographically diverse sites.

Gender was the only demographic variable that significantly predicted OVPB of students at all four sites. Again, boys tended to commit more violent/predatory acts. In

addition, for the small city school, adolescents whose parents did not complete high school had higher levels of OVPB. For the suburban school, the students with parental education less than college degree presented more violent/predatory behaviors. In Cleveland city schools, Hispanic adolescents committed violent acts less often than African American youth, while, for the Denver city schools, Caucasian adolescents had a lower level of OVPB than African American youth.

Among the violence exposure variables, six out of nine were significant predictors of OVPB across all four sites; they were: "past witnessing of threat/slap/beating," "recent witnessing in neighborhood," "recent victimization/witnessing at home," "recent witnessing at school," "recent victimization at school/neighborhood," and "exposure to shooting/knife attack." "Lifetime victim of sexual abuse" and "lifetime witnessing of sexual abuse" achieved significance only for Cleveland city schools (Beta=.10 and .07, respectively).

There were some commonalties among the four sites in terms of important predictors of OVPB. With the exception of the suburban school, "exposure to shooting/knife attack" was the most significant predictor of OVPB (Beta=.37 to .47). "Recent victimization at school/neighborhood" was the second most important variable in explaining OVPB for the suburban, Cleveland city, and Denver city schools (Beta=.25 to .34). Again, with the exception of the suburban school, "recent witnessing in neighborhood" had a high association with OVPB (Beta=.15 to .22). Also, "recent victimization/witnessing at home" was a powerful predictor of OVPB (Beta=.15 to .47), especially for the suburban school, where it was the most important one (Beta=.47).

TABLE 15. REGRESSION STATISTICS OF ADOLESCENTS' OWN VIOLENT/PREDATORY BEHAVIORS

VARIABLE	B	BETA	T-VALUE	P-VALUE
A. TOTAL SAMPLE (VALID CASES = 2924)				
Living arrangement	.018	.009	.644	.5198
Gender	.213	.110	7.729	.0000
Age	-.022	-.027	-1.989	.0468
Hispanic	-.094	-.041	-2.600	.0094
Caucasian	-.056	-.028	-1.683	.0925
Parent non-high school graduate	.067	.025	1.732	.0834
Parent college graduate	.020	.009	.655	.5128
Past victimized of threat, slap and beating	.020	.020	1.308	.1909
Past witnessing of threat, slap and beating	.142	.146	8.491	.0000
Recent witnessing in neighborhood	.189	.193	12.509	.0000
Recent victimized and witnessing at home	.193	.193	12.967	.0000
Recent witnessing at school	.149	.154	9.774	.0000
Recent victimized at school & neighborhood	.235	.227	15.263	.0000
Exposure to shooting and knife attack	.431	.385	26.564	.0000
Victim of sexual abuse	.029	.015	1.021	.3075
Witnessing sexual abuse	.094	.054	3.561	.0004
Adjusted R^2 = .48, F (16,2907) = 168.62, p<.0001				
B. SMALL OHIO CITY (VALID CASES = 711)				
Living arrangement	.002	.001	.048	.9617
Gender	.248	.137	4.726	.0000
Age	-.035	-.044	-1.624	.1048
Hispanic	.307	.015	.445	.6568
Caucasian	-.060	-.031	-.882	.3779
Parent non-high school graduate	.142	.054	1.965	.0498
Parent college graduate	-.051	-.023	-.848	.3968
Past victimized of threat, slap and beating	.055	.059	1.885	.0598
Past witnessing of threat, slap and beating	.147	.152	4.640	.0000
Recent witnessing in neighborhood	.221	.217	7.421	.0000
Recent victimized and witnessing at home	.131	.151	5.085	.0000
Recent witnessing at school	.217	.238	7.529	.0000
Recent victimized at school & neighborhood	.072	.062	2.100	.0361
Exposure to shooting and knife attack	.572	.473	15.758	.0000
Victim of sexual abuse	-.102	-.052	-1.838	.0665
Witnessing sexual abuse	.041	.025	.799	.4246
Adjusted R^2 = .50, F (16,694) = 45.40, p<.0001				

TABLE 15 CONTINUED

VARIABLE	B	BETA	T-VALUE	P-VALUE
C. CLEVELAND SUBURB* (VALID CASES = 369)				
Living arrangement	-.038	-.026	-.733	.4639
Gender	.148	.122	3.159	.0017
Age	-.007	-.015	-.421	.6739
Hispanic	-.668	-.057	-1.553	.1214
Caucasian	-.140	-.079	-2.185	.0295
Parent non-high school graduate	-.007	-.008	-.169	.8660
Parent college graduate	.136	.147	3.236	.0013
Past victimized of threat, slap and beating	.203	.156	3.834	.0001
Past witnessing of threat, slap and beating	.404	.474	11.393	.0000
Recent witnessing in neighborhood	.245	.243	5.444	.0000
Recent victimized and witnessing at home	.348	.339	7.449	.0000
Recent witnessing at school	.381	.236	5.908	.0000
Recent victimized at school & neighborhood	-.094	-.047	-1.129	.2595
Exposure to shooting and knife attack	-.132	-.081	-1.803	.0722
Victim of sexual abuse				
Witnessing sexual abuse				
Adjusted R^2 = .56, F (14,354) = 34.33, p<.0001				
D. CLEVELAND CENTRAL CITY (VALID CASES = 940)				
Living arrangement	.073	.032	1.315	.1887
Gender	.192	.087	3.467	.0006
Age	-.020	-.023	-.951	.3421
Hispanic	-.179	-.071	-2.730	.0065
Caucasian	-.091	-.026	-1.025	.3058
Parent non-high school graduate	.032	.012	.473	.6364
Parent college graduate	.001	.0003	.012	.9905
Past victimized of threat, slap and beating	.006	.006	.198	.8434
Past witnessing of threat, slap and beating	.133	.122	4.194	.0000
Recent witnessing in neighborhood	.211	.210	7.752	.0000
Recent victimized and witnessing at home	.163	.160	5.985	.0000
Recent witnessing at school	.148	.131	4.944	.0000
Recent victimized at school & neighborhood	.249	.248	9.227	.0000
Exposure to shooting and knife attack	.411	.374	14.824	.0000
Victim of sexual abuse	.206	.100	3.926	.0001
Witnessing sexual abuse	.126	.074	2.773	.0057
Adjusted R^2 = .48, F (16,923) = 54.84, p<.0001				

TABLE 15 CONTINUED

VARIABLE	B	BETA	T-VALUE	P-VALUE
E. DENVER CENTRAL CITY (VALID CASES = 912)				
Living arrangement	-.025	-.013	-.526	.5993
Gender	.188	.100	3.823	.0001
Age	-.109	-.024	-.979	.3278
Hispanic	-.096	-.049	-1.685	.0923
Caucasian	-.147	-.067	-2.396	.0168
Parent non-high school graduate	.093	.036	1.389	.1651
Parent college graduate	.031	.014	.567	.5706
Past victimized of threat, slap and beating	.037	.041	1.427	.1539
Past witnessing of threat, slap and beating	.159	.151	4.896	.0000
Recent witnessing in neighborhood	.159	.151	5.721	.0000
Recent victimized and witnessing at home	.258	.233	8.584	.0000
Recent witnessing at school	.116	.124	4.276	.0000
Recent victimized at school & neighborhood	.301	.313	11.455	.0000
Exposure to shooting and knife attack	.386	.358	13.757	.0000
Victim of sexual abuse	-.052	-.029	-1.076	.2821
Witnessing sexual abuse	.048	.026	.957	.3386
Adjusted R^2 = .47, F (16,895) = 52.21, p<.0001				

Note: *Race was not included in the regression model for the suburban sample because the sample was almost exclusively (98%) Caucasian.

Furthermore, "recent witnessing at school" was found important in predicting OVPB for both the small city and the suburban schools (Beta=.24 and .24, respectively). "Past witnessing of threat/slap/beating" also had a sizable relationship with OVPB (Beta=.15) for the small city school. Finally, a unique finding for the suburban school was noteworthy. "Recent victimization/ witnessing at home" instead of "exposure to shooting/knife attack" was the most powerful predictor of OVPB. This result may be due to very limited amount of exposure to shooting and knife attacks among the students in the suburban school.

Summary and Conclusions

Reliable statistical relationships were disclosed between exposure to violence and adolescents' own violent and predatory behavior. While the specific configurations of this relationship varied across sites, it is noteworthy that the overall association between violence exposure and violent/predatory behaviors was significant within each site as well as for the entire group of sites.

Our analyses revealed that certain types of violence exposure were most powerfully associated with adolescents' violent and predatory behaviors. Having been exposed to a shooting or knife attack and having been a recent victim of violence in school or in the neighborhood were strongly associated with adolescents' own violent/predatory behaviors. In addition, being a recent witness or victim of home violence and recent witnessing of neighborhood violence were important predictors of violent/predatory behaviors.

The high amounts of explained variance between violence exposure and violent/predatory acts (R^2's ranging from .39 to .47) suggest a strong interrelationship between exposure to violence and violent behaviors. It is likely that many adolescents who commit violent acts are also exposing themselves to violence and potential harm through peer affiliations with other violent youth, high-risk behaviors, and illegal acts. Thus, the association between violence exposure and violent behaviors is likely to be interactive rather than unidirectional.

COPING STRATEGIES

Students were asked to indicate how often they used a number of strategies for coping with being upset or uptight. In order to explore the coping strategies employed by the most violent adolescents in the sample, a subset of violent males and females was identified. Scores were calculated for all adolescents based on their reports of violent and aggressive behaviors during the past year. In separate analyses based on gender, adolescents scoring in the top 10% on the violence scale were identified.

Coping strategies employed by the subset of most-violent females subsequently were compared to strategies employed by all other females in the sample. Similarly, coping strategies used by the subset of most-violent males were compared to strategies used by all other males in the sample. Percentages of students who reported using each coping strategy at least sometimes can be found in Table 16. Initial demographic comparisons between the violent and comparison groups revealed that both violent males and violent females were significantly less likely than their comparison group counterparts to come from two-parent families.

Females

Comparison of Coping Strategies Used Most Frequently by Most-Violent and All Other Females

Percentages reflect the proportion of students who reported using each coping strategy at least sometimes.

TABLE 16. COMPARISON OF COPING STRATEGIES USED MOST FREQUENTLY BY MOST-VIOLENT AND ALL OTHER FEMALES

(Percentages reflect the proportion of students who reported using each coping strategy at least sometimes.)

MOST-VIOLENT FEMALES			ALL OTHER FEMALES		
N=191			N=1732		
COPING STRATEGY	INDIV. N (TOTAL N)	%	COPING STRATEGY	INDIV. N (TOTAL N)	%
1. Talk to a friend	181 (188)	96.3%	1. Listen to music	1652 (1720)	96.0%
2. Listen to music	182 (190)	95.8%	2. Talk to a friend	1643 (1726)	95.2%
3. Get angry and yell at people	173 (189)	91.5%	3. Be by myself	1561 (1721)	90.7%
4. Be with a boy-friend or girlfriend	172 (190)	90.5%	4. Cry	1515 (1718)	88.2%
5. Say something mean	171 (190)	90.0%	5. Sleep	1481 (1722)	86.0%
6. Be by myself	170 (190)	89.5%	6. Help others with problems	1458 (1724)	84.6%

Although for both sets of girls listening to music and talking to friends are primary coping mechanisms, 72% of the most violent females reported listening to music "almost all the time," whereas only 49% of the other girls in the sample reported using music as a coping strategy equally often. Thus, although similar percentages of both groups use music at least sometimes, violent girls who use music as a coping mechanism tend to use this strategy more frequently than do the other girls in the sample.

TABLE 17.
COPING BEHAVIORS

(Percent of adolescents using each coping strategy at least sometimes.)

	MOST-VIOLENT FEMALES N=191	ALL OTHER FEMALES N=1732	MOST-VIOLENT MALES N=166	ALL OTHER MALES N=1602
Play sports	60.0%	63.0%	85.5%	86.4%
Talk to a friend	96.3%	95.2%	84.9%	85.0%
Get angry and yell at people	91.5%	73.9%	85.5%	64.8%
Sleep	87.9%	86.0%	87.3%	79.4%
Watch TV	84.2%	83.1%	82.5%	82.9%
Say something mean to people	90.0%	65.9%	89.2%	65.3%
Help others with problems	84.7%	84.6%	59.0%	68.9%
Use alcohol/drugs	56.8%	27.7%	68.1%	32.1%
Talk to a family member	58.5%	68.5%	57.6%	65.1%
Go to church	52.9%	55.9%	47.6%	48.4%
School activities	53.2%	57.1%	46.7%	57.5%
Be with a boy/girlfriend	90.5%	79.2%	88.5%	74.8%
Cry	87.9%	88.2%	32.3%	34.3%
Talk to a teacher, minister, or counselor	33.7%	34.6%	26.2%	28.9%
Listen to music	95.8%	96.0%	93.4%	92.9%
Joke	80.5%	80.7%	86.7%	82.9%
Be by myself	89.5%	90.7%	83.0%	86.4%

Similarities with respect to the remaining four strategies are less consistent. One of the most interesting differences between the two groups is the degree to which the most violent females used both "getting angry and yelling at people" and "saying something

mean" as primary coping strategies. Neither of these mechanisms was frequently reported by the other girls in the sample. Moreover, among females who did use these strategies at least sometimes, there is a sharp distinction between the two groups with respect to the frequency with which these coping mechanisms were used. Four times as many violent females (40.2%) as other females (10.7%) reported using anger as a coping strategy "almost all the time." Similarly, almost four times as many violent females (32.6%) as other females (9.0%) reported coping with being upset by saying something mean "almost all the time."

Being with a boyfriend is a third strategy reported more frequently by females in the most violent group than by all other females. The difference between the two groups is particularly pronounced among those who reported using this strategy very frequently. Twice as many violent girls (50.5%) as comparison group girls (25.0%) reported being with a boyfriend "almost all the time."

Although sleeping was a primary coping strategy only for those females in the comparison group, there was a distinct difference between the two groups with respect to those girls who reported using sleep as a coping mechanism "almost all the time." In the high violence group, 42.6% of the females reported using sleep "almost all the time" to cope with being uptight, whereas only 23.6% of the girls in the rest of the sample reported sleeping equally often.

A similar and very important difference was also found with respect to frequent use of alcohol and drugs. Although this strategy was not endorsed frequently by either group, among those who did report using alcohol or drugs "lots of times" or "almost all the time"

there was a striking difference between the two groups. More than 25% of the females in the most violent group reported using drugs or alcohol "lots of times" or "almost all the time," whereas only 7.3% of the females in the rest of the sample made similar reports.

Males

The six most often endorsed means of coping are listed below for both the most violent males and all other males in the sample. The percentages reflect the proportion of students who agreed that they used each method of coping at least sometimes.

Similar to the findings for females, listening to music was a primary coping strategy used by both groups at least sometimes. However, as was found in the case of the most violent females, the most violent males reported using music more frequently than the other males in the sample. Sixty-five percent of the most violent boys reported listening to music "almost all the time," whereas only 39% of their less violent counterparts made similar reports.

Other important similarities between the coping strategies employed by violent girls and violent boys included both saying something mean and getting angry. Neither of these strategies was included among those most often reported by the male comparison group. Differences between the percentages of violent males and comparison group males who reported using these strategies "almost all the time" were even more striking than those found in the female groups. More than five times as many violent boys (38.6%) as comparison group boys (7.3%) reported getting angry and yelling at people "almost all the

TABLE 18. COMPARISON OF COPING STRATEGIES USED MOST FREQUENTLY BY MOST-VIOLENT AND ALL OTHER MALES

(Percentages reflect the proportion of students who report using each coping strategy at least sometimes.)

MOST-VIOLENT MALES			ALL OTHER MALES		
N-166			N-1602		
COPING STRATEGY	INDIV. N (TOTAL N)	%	COPING STRATEGY	INDIV. N (TOTAL N)	%
1. Listen to music	155 (165)	93.4%	1. Listen to music	1468 (1581)	92.9%
2. Say something mean to people	148 (166)	89.2%	2. Play sports	1375 (1591)	86.4%
3. Be with a boyfriend or girlfriend	146 (165)	88.5%	3. Be by myself	1365 (1580)	86.4%
4. Sleep	145 (166)	87.3%	4. Talk to a friend	1352 (1591)	85.0%
5. Joke	144 (166)	86.7%	5. Joke	1308 (1578)	82.9%
6. Get angry and yell at people	142 (166)	85.5%	6. Watch television	1313 (1584)	82.9%

time." Similarly, more than five times as many violent boys (35.3%) as comparison group boys (6.6%) reported saying something mean "almost all the time."

Both sleeping and being with a girlfriend or boyfriend were among the most commonly identified strategies reported by the most violent males but not by the other

males in the sample. Twice as many violent males (34%) as comparison group males (17%) reported using sleep as a coping strategy "almost all the time." Similarly, twice as many violent males (41%) as comparison group males (22%) used spending time with a girlfriend or boyfriend "almost all the time" as a way of dealing with feeling upset.

Although use of alcohol and drugs was not identified as a primary coping strategy by either of the groups, a startling difference was found between the percentage of most-violent boys who reported ever using drugs or alcohol when they felt upset (68%) and the percentage of comparison group boys who made similar reports (32%). The disparity was particularly pronounced among those who reported using drugs or alcohol very frequently. Five times as many violent males (21%) as comparison group males (4%) reported using drugs or alcohol "almost all the time."

Conclusion

The coping strategies used by the most violent adolescents in the sample have a number of critical implications. First, violence in the lives of adolescents is compounded by exposure to violence in the form of entertainment, particularly in music, in movies, and on television. Some of today's popular music offers little escape from the violence many adolescents experience every day, particularly heavy metal and "gangsta rap." Use of music as a primary coping strategy may instead reinforce the feeling that violence is a normal and appropriate behavior.

Second, the use of anger/yelling and saying something mean as primary coping

strategies among both the most violent males and the most violent females suggests an important relationship between adolescents' behaviors and the means used to deal with stress. Use of these strategies is likely to increase the potential for aggressive behavior and to perpetuate violence. Third, spending time with a boyfriend or girlfriend, used as a primary coping mechanism by both the most violent males and the most violent females, raises issues concerning the impact of peer pressure and the potential for unintended pregnancy.

Finally, findings with respect to drug and alcohol use are consistent with other studies that have documented an association between alcohol and/or drugs and aggression (Milgram, 1993; White et al., 1993). In a longitudinal study of adolescent males' alcohol use and aggressive behavior, White et al. (1993) found that early adolescent aggression was a significant predictor of teenage alcohol use but that early alcohol use was not a significant predictor of aggressive behavior at age 18. Although results of the present study are correlational, our findings do indicate the importance of addressing the potential for alcohol abuse among violent adolescents. Moreover, our findings indicate the need to help violent adolescents develop coping strategies which neither perpetuate their violent behavior nor put them at high risk for other serious problems.

IN THEIR OWN WORDS

At the end of the survey, students were asked to share their "thoughts and opinions on some of the difficult things teenagers today have to deal with." Surprisingly, many

adolescents took this opportunity to share their experiences. A number of themes emerged from the adolescents' comments. One of the most prominent themes is the inescapability of violence in the lives of these young adults. A gang member commented, "Violence is a way of life and you can't stop it," while another male reflected, "There's a lot of pressure out there and lot of things you can get into and it's hard choosing right from wrong even though you know the difference. You just can't help yourself, there are no jobs or nothing to keep us kids occupied so there's nothing left but trouble." One male teen suggested that involvement with violence was inevitable: "People have to face these things every day. If you are a bad kid or a good kid, if you look for trouble or don't look for trouble you somehow get involved because it looks for you." Another adolescent male learned from experience that he could not escape the violence: "Gangs everywhere and a lot of violence. I cannot walk away from fights because from experience I have, when I have done this once I had got jumped and then stabbed in my face. So I cannot do it again." Females expressed similar concerns: "We have to deal with gangs, drugs, violence, and disease in all neighborhoods almost every day." Another female described a pervasive sense of fear: "A lot of kids are scared to walk down the hallways alone, thinking something might happen. It is like that all the time. I am afraid to go anywhere alone anymore violence is so bad now."

Based on their experiences of violence, these young peoples' comments reflected little hope for the future. One male commented, "The world is almost over." Another reflected, "Well, I think this world ain't nothing but a big ball of anger ready to explode and there is no stopping it. No stopping it. No stopping." Similarly, a male teen wished for a

quick ending to the pain confronting him daily: "I think the world should just go ahead and end. Because we are dying and suffering day by day. The way things are going now, by the future man will self-destruct themselves."

In addition to concerns about being unable to escape violence, many students shared their fears of dying: "As for myself I get scared of dying, dying without no reason! Violence, for example. If you were walking across the street, some one could just shoot you for nothing. I'm really afraid of dying." One female wondered, "Am I going to make it to my next birthday?" Some adolescents expressed fear of "getting killed anywhere." Other teenagers echoed these concerns. One teen noted, "We have to deal with violence everyday wondering if this is the day I will die," while another suggested that "teenagers today have to deal with . . . how they are going to survive and when and how they are going to die or just when their time is up." A young African American female wondered "why so many black young males are dying." Another female adolescent reflected on the uncertainty of the future: "Many teenagers today have to deal with drugs and alcohol and worrying about getting shot or killed by someone or someone else's gun. And they also have to worry about if they are going to live past 18."

Many young people had personal experiences with the death of friends. One female shared the pain of "friends killing themselves. In weeks two of my friends died. One died over no reason, the other shot himself in the head playing with a gun." Others worry about the death of friends and relatives: "Teenagers today have to deal with death a lot sooner than before especially with friends dying because of gangs or drugs or alcohol." A female adolescent commented, "Teenagers today have to worry about whether they are going to

live to see tomorrow. Or whether or not someone close to them is going to be killed." One male summed up the issues facing youth this way: "Some teens think about our environment but most of them think about staying alive."

Shootings were a third area of concern for a number of adolescents: "[We] have to deal with too much violence, someone is always shooting someone." One female commented, "It is hard to go to certain places, even school, when you know you could get shot for no reason." Another girl said she was afraid of "going places and getting shot at or seeing someone get shot that you know." One male was tired of "going outside worrying about getting shot." Another young man simply commented, "I'm always getting shot at and it sucks."

Drugs were an equally important area of concern. One female tried to explain her use of drugs: "Teenagers today have to deal with the violence and drugs that's going around in their neighborhood. Even though I drink and smoke bud, that's something I had to worry about, I don't want to do it, but I have a lot of problems and drinking and smoking helps to ease my mind." A male student who identified drug and alcohol use as a significant problem facing teenagers said he thought "most [teenagers] who use drugs use them to get away from all the problems around them. I feel this works for myself many times, it makes me more mellow, less violent." Some teens noted the monetary benefits of selling drugs: "How can you tell someone just to say no when they're on welfare and their child's bringing home five grand a month?" A female teen agreed: "Not having money also. That's the reason a lot of kids sell drugs because they want to look nice and have money. A job is sometimes hard to find. Life simply is very hard." Similarly, a young male

saw drugs as a means of attaining status: "If you deal drugs and make money you would also give yourself respect. Cause you would have Money and the Power." One young man reflected on race and the role of drugs in his community: "Drugs. The shit is real and nobody wants to deal with it. Nobody knows how a person changes from selling drugs. White people always trying to fuck you over. First they put the dumb ass shit in the neighborhood, then they bust you. Ain't life grand."

Concern about drugs and violence was closely tied to problems with gangs: "One of the difficult things teenagers face today is gang violence. You can't walk down the street without someone confronting you saying 'What gang you in?' You say the wrong thing and they beat the hell out of you. What the fuck is this world coming to?" One female commented, "Today you deal with gang violence. You worry that you might get hurt just for wearing the wrong colors. Sometimes people come and put a gun to your head just because they want your jacket or something. You never know!" A number of teenagers shared their experiences as gang members. One male explained, "I'm in a gang. I've been in it since I was 13 years old. I joined in Chicago. Now I want to get out 'cause I'm scared. But I'll be alright once I get out of it. Some kids aren't so lucky. They have no choice but to stay in or get beaten up bad." Another young man shared his experience getting into the gang: "I think that teenagers today have to deal with its gangs. They have to watch the friends they hang out with. It wasn't my choice to be in a gang, I was just with the wrong friend. If it wasn't for that friend I wouldn't be in a gang today and I wouldn't want to be in one either!!! Gangs suck!"

Other teenagers noted the benefits of gang membership: "Gangs–you feel you have

to be in one to feel safe." One male student compared his gang to a family: "To me it's better to be in a gang because that way you always have a second family and someone to back you up, that's their true homes." The importance of that support was also noted by a female gang member: "Asian American gangs are different from American gangs because they [Asian gangs] care and will stick with you. They don't let you down." For some, the rewards of gang membership are worth great sacrifices: "The only difficult things are that people are wanna-be's and will do anything to be in a gang. They will even kill." One female, however, expressed mixed feelings about her gang: "I think the reason why myself and others are in gangs is 'cause we're bored and need comfort, we just feel loved. I think teenagers need to grow up though. Out there having sex and doing drugs, well, they're getting pregnant and dying."

Sex and sexual abuse were prominent themes, particularly among female teens. One female wrote, "We have many difficult things to deal with. The most important one is sex. Most teenagers do it on their free will but someone talked them into it. I have a son and he wouldn't be here right now if someone wouldn't have talked me into it. The father don't even claim him . . . .Teenagers just don't understand what they are putting themselves into." Another young woman expressed concerns about sexual responsibility: "Teenagers have to deal with AIDS like what boy is the right one for you. And is he sexually active and if so does he have AIDS. Teenagers have to always be worrying about their boyfriends wanting them to have their child. Why boys always want to get girls pregnant when they know they can't take care of it."

Consistent with the finding that approximately one in five or six teenagers had been

forced to do a sexual act, sexual violence was an often identified difficulty facing teens. One young woman described the importance of the healing process after abuse: "I think more people should focus on kids that have been sexually abused. After this happens we go through a lot of denial and misplaced anger. I think we can avoid that by acknowledging their situation and helping them realize that they are the victim and that they are beautiful people even though someone out there invaded their body. I had to teach myself that and there are many people out there who are not strong enough to realize that on their own." Another female teen made a plea for help: "Sexual abuse is very often and I've suffered from it for years from my father. Sick bastards should be put away and not be allowed to even be near others. Teenagers need to find help and find safety. I guess I'll keep living and just try to deal with it until I die. We need help!!" Other teenagers described how difficult it had been for them to cope with having been abused: "We mostly have to deal with gang violence and being raped. For me being raped was hard, you feel like no one cares, and nobody believes you." Another female described her loss of feeling: "At this point I'm trying to figure out how to FEEL. Most of the time it takes a lot to get me upset or hurt . . . . It's like I'm numb physically and emotionally. It just happened. I want to feel again."

Teenage girls not only described experiences of sexual abuse, but also discussed the problem of physical violence at home and in their relationships. Concerns about safety were voiced by one female: "For me being a female you have to often show that no man or anyone can push you around. Teen girls need to feel safer from sexual or physical violence." Another young woman described the effects of a violent relationship: "One of the

most recent things that I've had to deal with is that my boyfriend hit me really bad. Now we broke up and he doesn't want to leave me alone. I miss him very much but I don't trust him any more and I don't want to be with him again because I don't want an abusive boyfriend. All this pressure has affected my grades and attendance and my attitude towards guys." Alcohol and drug use was sometimes a means of escape from the pain of these experiences: "A lot of teenage girls today act or feel the way they do because they're in a violent relationship with a guy or were in one. Sometimes she'll drink and other times she'll try to get away from him or to her past with him." Involvement of the authorities did not always insure safety for these teens: "Parents. Physically and emotionally abusing me and at times, my sisters. Lying to the cops to save himself." One female teen poignantly compared her feelings about family violence and violence in her community: "One of my biggest problems is with abuse. I've seen between my parents and then toward my siblings and I after divorce. Gang violence doesn't scare me near as much as when you think about being able to be hurt more by someone that says they love me."

Some teenagers shared very personal stories of abuse and loneliness. One female teen explained the effects of her trauma: "I was raped several times before my thirteenth birthday. I had a gun pointed at me several times. I've already had two nervous breakdowns. My brother beats me and my mother mentally abuses me . . . . I hold in so much rage that if it ever came down to it, I could kill someone with no remorse. But I never took any drugs and I don't have a juvenile record." Another female expressed loneliness and feelings of isolation: "I am a 14-year-old girl who is concerned by others, extremely pretty. Guys used to love to be with me but now its like they don't care. Girls have always

been mean to me and I only have three 'good' girl friends. I get excellent grades and take all honors classes and that makes other people make me feel dumb. I have tried to commit suicide four times in the last two years. No one listens and no one seems to care. I don't do drugs, drink, or in a gang and I'm a virgin. If I'm the best that I can be, then why am I so lonely two-thirds of the time?" Yet another teenage girl described her feelings toward her stepfather: "My stepfather was dealing with these young boys and they came to my house and jumped him in my kitchen. reason was he's a liar and he cheats people out of their money. And that's the reason why I feel scared and that's what I think I'll never forget or forgive him for damaging my life and the lives of my family."

Peer pressure, particularly with respect to drugs, gangs, violence, and sex, was another prominent theme emerging from teens' comments. One male commented, "Teenagers have to deal with trying to act like someone you ain't so that you can be 'down' or cool. Selling drugs and trying to fuck a lot of girls so you can be known. Smoking bud and drinking beer. And especially sex." Another young man noted the pressure to commit violent acts: "Teenagers today have to deal with pressures of others forcing drugs, alcohol, and gangs. We also have to fight no matter where you are because people don't like the way you look or the way you walk, and also the way you talk. This leaves a lot of pressure on us." A young woman described her attempts to avoid peer pressure: "[I] have to hang with school, keep good grades. Avoid males because most of them always want to mess up your life and your inner self. Cope with parents and siblings and most of all peer pressure. That's why I play sports for my school (volleyball, basketball, softball, and whatever else school has to offer) so that I can stay out of trouble." Although rewarding,

avoidance of negative peer pressure does have costs: "Being a black male with a 3.6 GPA, I'm often talked about because I don't party a lot, or drink, or smoke, I mostly stay in the books. Because of my determination in school, many people choose not to have much to do with me. There are many other black males in my school who are just as smart as I am, but care more about drinking and drugs and gangs so they can be 'cool' and have 'hard' friends. I feel more students would succeed in school if they didn't feel so much pressure from their friends to stay away from school."

A number of adolescents either made racist comments or described their experiences of racism. One female expressed her own racist feelings: "[Teens have to deal with] Gangs and blacks! Gangs sit in class and threaten people who won't talk to them or lend them some paper or won't let them copy. Blacks, not that I'm prejudiced or anything, they sit there and call us racists when they are the one who go and saying, 'Black power!' 'Fear of a Black Planet' or 'Its a black thing!' It's like they want to be separate from us. They don't understand that they can't take out their anger on someone else just because we're a different color. So someone else might be a racist, that is their problem, not mine! Black guys sit down at my lunch table talking about how black men have bigger penises than anybody else! . . .They walk around school spitting on the floors . . . . As much as I hate to say it, sometimes I do feel like a racist. How else am I supposed to feel." Similarly, a white male noted, "The most difficult thing to deal with would probably be gangs. You really don't feel safe some places that you go to for fear of being threatened or injured for no reason at all. These people are almost always blacks or Hispanics. I don't have a very high regard for these particular races of people from my experience with them. I would like to

terminate the majority of them like the Nazis did." One male blamed African Americans for problems in school: "I think that most things would be okay if the world didn't have black people. I personally do not like them and I think that they are the cause of most of the school's problems. They always have to go around thinking that they are the superior race, and whites are below them and that is really what upsets me and I think that is a major problem some teens have to deal with. They are the people that start the most trouble at school. Blacks always have to pick on somebody. If our school was a school with whites only, we wouldn't have to worry about violence. Blacks think that they're still slaves and they still have to hate the white man."

Other students commented on their daily confrontation with racism: "Violence is an everyday thing you get used to seeing it. Nobody sees anyone as a person anymore. People have stopped caring about others and in this school there is a lot of racism. Because I'm 'white' I automatically have enemies just because of the color of my skin." Similarly, a male teenager noted the difficulty of dealing with "certain situations like when you're at a party or something and people you don't like come in just to cause trouble. Racial violence, especially in my school. Whites stick with whites and blacks stick with blacks." One young man explained that he had to deal with "racism and the thoughts of being killed by cops." Another male teen offered a broader perspective: "I have to deal with the racial prejudices of the past that are still carried out fully by the white race." And finally, a 16-year-old female warns, "My major concern is that the black race is slowly but surely being driven into extinction. Help us!!"

Some teens attributed problems to the lack of parental or adult support and

guidance: "We have to deal with problems the adults have left for us, most come from homes that have been torn apart by violence as we have witnessed. Growing up in that kind of violence we only follow the grownups that are suppose to be role models. We just try to cope with society as it is in our lives." Similarly, another male surmised: "I think a big reason so many teens turn to drugs and gangs is because they don't have an adult in their life who understands or respects what they are going through." One student noted problems with "parents who is using drugs. No adult guidance. No one to help when mother is on drugs." Fear was a concern not only among teens but also among the protectors of teens: "Most of the times adults don't be around to supervise and if they do be around they sometimes be scared to supervise." One young woman simply stated, "[We just] need and want people to count on for help and understanding."

Safety was a primary concern for a number of teenagers. One female described the problems faced by teens and pleaded for more help dealing with those issues: "[We are] having to deal with other violent people and knowing that you're never safe. The guns, gangs, and drugs are too much for teenagers to handle, we need more HELP!!!" A male student described concerns about safety at school: "Some are (like me) having a fear of all the guns that get in school. I wish there were more protection."

Other teens described strategies used for protection: "The kids in our society think that being in a gang or having a gun is safe, but it is not because you are only hurting yourself. Now that kids think suicide is going to solve their problems, they're wasting their lives." A female student commented on what she views as the inadequacy of common protection strategies: "Teenagers have to deal with drugs, violence, and sex. They get

pressured into all three of these things and don't know how to react. They want guns to protect themselves and end up killing their own friend accidentally. What if everyone in the world wanted guns to protect themselves . . . . Now if you say how you feel you get shot, stabbed, etc." Another female teen suggested that her peers carry "weapons because they feel safer." One young woman refused to leave her home without protection: "Well, today's world is very dangerous, that's why I don't go outside unless I'm with my cousins, or my brother, or my boyfriend." For some, there appear few alternatives for insuring safety: "Most teenagers have to deal with the fact that it's not safe any more, and that you must be part of a gang in order to stay alive. Education is a way out but if you had a disability in learning, and no money for college the only way out is selling drugs and rob people. Rich kids think they have a problem, but they don't know the problem faced by lower class people, and that it is life threatening."

Not surprisingly, these experiences have had a tremendous impact on youth. Young people feel the pressure of adult responsibilities: "Some people I know have to become an adult at an early age. Either their parents are dead or on drugs and they have to take the place of their parents and help raise their brothers or sisters. Not having any free time to do some things on their own. That can build up a lot of pressure on that person because of so much responsibilities." Similarly, a female adolescent commented, "Teens aren't given the luxury to be just kids, they must take on adult responsibilities at an early age." One young woman lamented losing a certain childhood innocence: "I think too many teenagers have to deal with gangs and violence in the home and teenagers shouldn't have to deal with things like that. All teenagers should be able to live and enjoy life, not have to

worry about the next drive-by shooting and ending up dead on the street." A male teen had similar concerns: "Teenagers have a lot to worry about nowadays. Gangs, drugs, and guns in schools are most things teenagers worry about today. When teenagers worry about things like that they have no time to think about important things like schoolwork and sports." One young man saw little hope for the future: "Nowadays we as teenagers have to deal with disappointments to themselves. Because some of us do some wrong and dirty things to people for no reason at all. The things they do are disappointing because adults say that we're the future. But at the rate some of us are going there is no future 'cause we're killing each other off for whatever reason it may be. It's not right."

A number of teens both explained the difficulties they faced and asked for help. One female asked for stricter rules at school: "I think it's really tough for a young person to live in today's society. There is a lot of pressure with drugs, alcohol, and violence. I've never had drugs offered to me, but I can see how they affect other people's lives. Alcohol is a big problem here in our school. Every weekend someone is having a party with alcohol. It's too easy for young people to purchase and consume it. Violence is a problem in our school also. Our teachers are sometimes intimidated by students. There are many gangs and violent acts throughout the year. The school board should establish stricter laws and rules in school. Maybe then, school would be a place to learn, not fight." Another young woman suggested that failures to help young people may result in substance abuse: "A lot of times teenagers have problems and adults are too involved with themselves or their work to listen so we resort to other ways of handling our problems like violence. Sometimes with all that is going on in your house like sexual abuse or physical abuse even mental abuse you feel

like you just have to get out and those who are not lucky enough to get out resort to drugs or alcohol. Help us, don't hate us." The comments of an African American female reflect concerns about the future of her people: "Pressures about having sex because you don't want to feel left out. Being pursued by gangs either after you or wanting you to join their gang. We as teens also deal with the pressure of wanting or not sure about selling drugs, teenage pregnancies, teenage prostitution. My major concern is that the black race is slowly but surely being driven into extinction. Help us!!" Finally, the comments of one female teen reflect frustration with the differential treatment afforded adolescents on the basis of their socioeconomic status: "I think teenagers go through a lot. Pregnancy, drugs, and a lot of other stuff. Help all teenagers. Not just some."

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Violence is an undeniable part of the lives of central city adolescents and is quickly becoming a part of all adolescents' daily experiences. This study has examined the extent to which adolescents are exposed to various types of violence either as victims or as witnesses and the association of such exposure with trauma symptoms and violent behavior. These relationships were examined in a sample of students from central city, suburban, and small city high schools. The research has investigated: (1) the effect of exposure to violence on students' reports of depression, anger, anxiety, dissociation, and posttraumatic stress, (2) the relationship between exposure to violence and aggressive or predatory behaviors, and (3) the types of coping mechanisms used by adolescents

exposed to violence.

Data from this study indicate that although males were generally the most frequent victims across domains (i.e., home, school, and neighborhood) and types of violence, females were more frequently victimized at home and were more frequent victims of sexual abuse than were their male counterparts. Victimization in the neighborhood was particularly common among boys from the two central city sites and the small city site. Witnessing violence at school was common among both males and females from all four sites. Approximately three in four adolescents reported witnessing someone else being threatened and/or slapped, hit, or punched at school during the past year. Witnessing shootings was alarmingly common among central city adolescents. Approximately one-half of Cleveland central city males and females and Denver central city males reported witnessing at least one shooting during the past year.

The percentages of students who reported hitting someone before being hit and hitting someone after being hit were high across all sample sites. With the exception of suburban females, more than half of students from each site reported engaging in these behaviors. Central and small city males' reports of shooting others suggest that these young men are not only victims of gunfire but also perpetrators of gun violence. More than one in five males from the central and small city sites reported shooting at someone at least once during the past year.

Significant relationships were found between violence exposure and trauma symptoms for students in the overall sample as well as for students from each sampling site. Multiple regression analyses of the total sample revealed that violence exposure

variables (and to a lesser extent, demographic variables) explained a significant portion of variance in all trauma symptom scores, including depression (R^2=.31), anger (R^2=.30), anxiety (R^2=.30), dissociation (R^2=.24), post-traumatic stress (R^2=.32), and total trauma score (R^2=.38). Although there was less severe violence exposure among suburban adolescents, the association between violence exposure and trauma symptoms was similar in significance and magnitude to that of adolescents from other sites. Conversely, adolescents in the central city samples did not habituate to their high levels of violence exposure, as they also displayed substantial trauma symptoms related to violence exposure.

For the total sample as well as for students from each of the four sites, significant relationships were also found between students' own predatory behavior and violence exposure. Hierarchical regression analysis using the total sample revealed that demographic variables explained 9% of variance in students' predatory behaviors while violence exposure explained an additional 39%. After controlling for demographic variables, the additional variance explained by violence exposure was significant across all four sites. The percentage of additional variance explained ranged from 40% to 47%.

Comparison of the coping strategies used by the most violent adolescents and all other adolescents revealed some striking differences. For example, the most violent males and females, unlike adolescents in the comparison groups, reported using both getting angry and saying something mean as primary coping strategies. The most violent adolescents were also much more likely than comparison group students to report frequently using drugs or alcohol to deal with feeling upset or uptight. Use of listening to

music as a primary coping strategy among all groups has important implications insofar as violence in the lives of adolescents may be compounded by exposure to violence in the form of entertainment.

Data from this study indicate the extent and implications of violence exposure among students from diverse socioeconomic and geographic backgrounds. Although central city adolescents had the greatest levels of exposure to severe violence, the relationship between violence exposure and both trauma symptoms and violent behavior was consistently strong across all four sites. Based on these findings, a number of prevention intervention and research strategies are recommended.

Prevention

Violence occurring in central city neighborhoods, particularly gun violence, must be reduced. Findings from this study show that both perpetration of and exposure to gun violence are important issues, especially for males. Approximately one-third of the males from the two central city sites reported being shot at during the past year. Approximately one in ten females made similar reports. Interestingly, the percentage of central city boys who reported being attacked with a knife or stabbed was only half that of the percentage who reported being shot at. Witnessing shootings was alarmingly common among central city adolescents. Approximately one-half of Cleveland central city males and females and Denver central city males reported witnessing at least one shooting during the past year. Adolescents also reported using guns: one in every four or five males from the central and

small city samples reported shooting at someone at least once during the past year.

Our data reflect the growing presence of guns in central cities and portend an increase in the number of deaths resulting from the use of these lethal weapons. Legislation must be enacted to limit the availability of handguns. Currently firearm homicide is the second leading cause of death for all 15- to 19-year-olds (Fingerhut, 1992). Gunshot wounds are the leading cause of death in both black and white adolescent boys (Koop and Lundberg, 1992). The availability and lethality of weapons have fueled the epidemic of violence among adolescents and have increased the likelihood of death or serious injury.

A second integral aspect of prevention involves development of neighborhood-based recreation activities. Adolescents in this study repeatedly commented on the effects of having few positive recreational alternatives. One student commented, "There's a lot of pressure out there and nothing to do but get into trouble." Another adolescent noted, "[I] think that the community should have more things to do and then there would be less gangs and violence in the world." Similarly, one student reflected on the relationship between a lack of positive alternatives and getting into trouble: "There's a lot of pressure out there and a lot of things you can get into and it's hard choosing right from wrong even though you know the difference. You just can't help yourself, there are no jobs or nothing to keep us kids occupied so there's nothing left but trouble." *Neighborhood-based recreation activities are an important alternative to the "trouble" found so easily by so many adolescents.*

Young people also need meaningful ways of earning money. The lack of jobs was a theme echoed in comments by a number of adolescents. One youth suggested that the

need for money must be met by whatever means possible: "Some have no money so have to get it the best way they know how (selling drugs)." Another youth commented on the relationship between jobs and violence: "There's no jobs or nothing so that's when crime starts. When you have crime you have violence." Similarly, one student suggested that jobs were at least part of the solution to the problems plaguing his peers: "Some of these (bad) things come out because no one had any faith in the youth. Give us jobs and you will see a change." *Opportunities to be rewarded for constructive activity are essential to the development of adolescents' self-esteem and may provide young people with hope for a future of self-sufficiency. These opportunities must be available to all youth, but especially to youth living in city neighborhoods.*

All adolescents must be taught safe and effective methods of coping with stress. The use of violence is not limited to central city adolescents. Approximately half of males and females from each sample site reported hitting someone before they were hit. Performance of this violent anticipatory behavior is reinforced by the images all adolescents are exposed to in the media. The glamorization of heroes who strike first sends an important message to young people: "Get the other guy before he (or she) gets you." Such an approach to conflict resolution increases violence exposure levels, denies adolescents the opportunity to learn healthy means of resolving problems, and perpetuates the cycle of violence.

For the most violent adolescents, learning nonviolent means of coping with stress is particularly critical. Data from this study revealed that, unlike comparison group adolescents, both the most violent males and the most violent females reported using

anger and saying something mean as primary coping strategies. Approximately nine in ten most violent adolescents reported using each of these strategies at least sometimes. These coping methods are likely to increase the potential for aggressive behavior and to perpetuate violence exposure in the lives of violent youths. Moreover, these strategies are unlikely to garner the emotional support needed by traumatized adolescents.

Use of alcohol and drugs is also likely to exacerbate adolescents' already existing problems. Data from this study indicate that this is a particularly acute problem among the most violent adolescents. Approximately 57% of the most violent females reported using alcohol or drugs at least sometimes; only 28% of comparison group girls made similar reports. A similarly startling difference was found for males in the study: 68% of the most violent boys reported using drugs or alcohol when they felt upset whereas only 32% of comparison group boys made similar reports. Clearly, the use of drugs and alcohol as a way of dealing with problems must be addressed among both violent males and violent females. *Drug and alcohol awareness and treatment programs must be implemented, and the hazards of mixing drugs or alcohol with firearms must be stressed.*

Intervention

A system of identification and treatment must be developed to address the multiple problems of violent and violence-exposed youth. Teachers, administrators, and social service providers must be trained to screen adolescents for violence exposure and to explore the possibility of coexisting trauma symptoms and potentially destructive coping

strategies. Resources must be available in both schools and community agencies to address the needs identified during the screening process.

Histories of violence exposure should be examined in adolescents who present with problems not immediately recognizable as violence related. Special attention should be paid to females whose violence-related problems may be overlooked by service providers focusing on male adolescents. Screening for violence exposure is particularly important among all adolescents whose primary contact with professional service providers is through the juvenile justice system. Early identification and intervention may prevent victimized youth from becoming perpetrators of violence, from enduring serious trauma symptoms, or from suffering the negative consequences of their coping strategies.

Both school- and community-based programs are needed to address the trauma and stress associated with violence exposure. These programs should have a variety of components: violence screening; recreation; pregnancy prevention; alcohol and drug abuse education and prevention; mental health services; prevention of gang involvement; tutoring; and job placement assistance. Such programs must provide not only support and individual attention but also education in nonviolent means of problem solving.

Research

This study investigated the relationship between violent acts, violence exposure, and trauma symptoms within a large heterogeneous sample of high school students. As yet, however, it remains unclear how violence exposure and psychological trauma differ across developmental age levels, and what types of violent acts are prominent at various ages.

Building on the present line of investigation, it would be important to examine violence exposure and related trauma symptoms and the types of violent behaviors manifested through several stages of childhood development using a cross-sectional design.

On a national level, as public awareness and concern over violence grows, the opportunity exists to establish a broad and diverse research agenda to inform us about youth violence. The centerpiece of this effort could be an ongoing national study to monitor continuously the violence exposure of our youth. A comparable effort has been conducted on an annual basis since 1975 to monitor drug use among this nation's youth. It has served to disseminate valuable information used to establish drug-related policies and programs. Similar results could be achieved through a sustained study to monitor violence exposure.

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